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PROCEEDINGS

OF THE

ILLINOIS

STATE DAIRYMEN'S ASSOCIATION,

AT ITS

THIRD ANNUAL MEETING,

HELD AT THE

CITY OF ELGIN, ILLINOIS, DECEMBER 12, 13 & 14, 1876.

PUBLISHED BY DIRECTION OF THE ASSOCIATION.

ELGIN, ILL.
THE ADVOCATE POWER PRINTING AND PUBLISHING HOUSE,
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1877.

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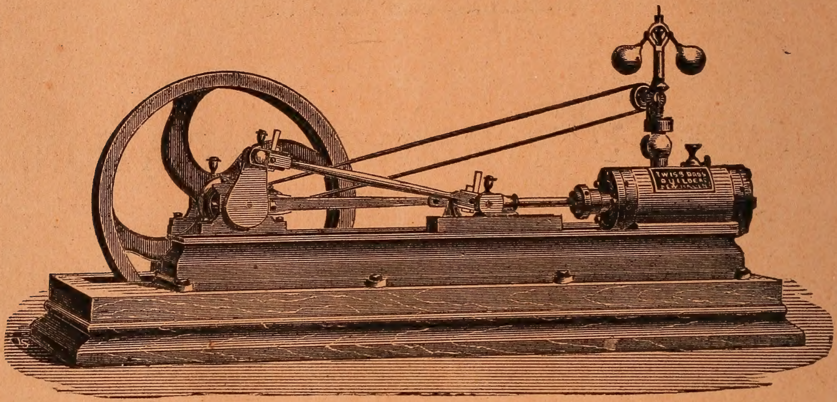

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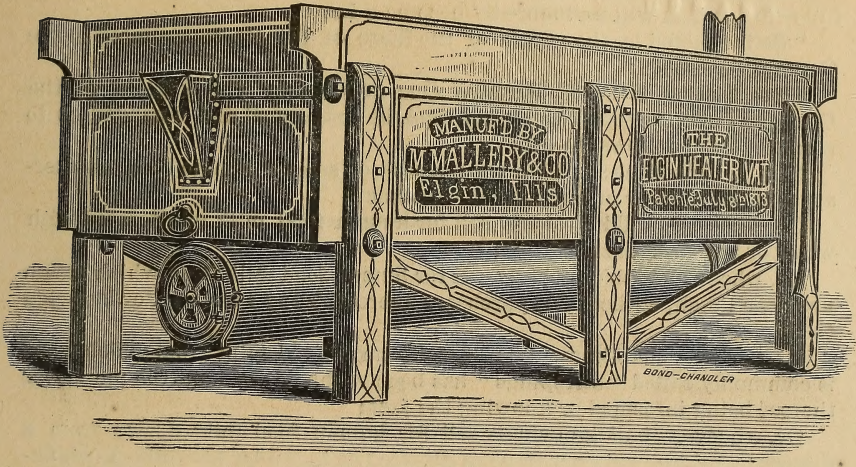

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A BILL PROHIBITING THE ADULTERATION OF MILK.

At the meeting of the Northwestern Dairymen's Association held in Chicago, February, 1877, Hon. S. Wilcox, R. P. McGlincy and H. W. Mead were appointed a committee to draft a bill to submit to the legislature of Illinois, prohibiting the adulteration of milk. The committee prepared the following, which will undoubtedly become a law:

"Be it enacted by the people of the State of Illinois, represented in the General Assembly:

That Section Nine of Division One of Chapter Thirty-Eight of the Criminal Code, Revised Statutes of 1874, be so changed and amended as to read and be as follows, to wit:

SEC. 9. Whoever shall, for the purpose of sale for human food, adulterate milk with water or any foreign substance;

Or, whoever shall knowingly sell for human food milk adulterated with water or any foreign substance;

Or, whoever shall knowingly sell for human food milk from which cream has been taken, without the purchaser thereof being informed, or knowing the fact;

Or, whoever shall knowingly sell for human food milk from which what is commonly called "strippings" has been withheld, without the purchaser thereof being informed or knowing the fact;

Or, whoever shall knowingly sell for human food milk drawn from a diseased cow, knowing her to be so diseased as to render her milk unwholesome;

Or, whoever shall knowingly sell for human food milk so tainted or corrupted as to be unwholesome;

Or, whoever shall knowingly supply or bring to be manufactured into any substance for human food, to any cheese or butter factory or creamery, without all interested therein knowing or being informed of the fact, milk adulterated with water or any foreign substance, or milk from which cream has been taken, or milk from what is commonly called "strippings" has been withheld, or milk drawn from a diseased cow, knowing her to be so diseased as to injure her milk, or milk so tainted as to be unwholesome;

Or, whoever shall knowingly, with the intent to defraud, take from milk after it has been delivered to a cheese or butter factory or creamery to be manufactured into any substance for human food, for and on account of the persons supplying the milk, cream, or shall with like intent knowingly add any foreign substance to the milk, whereby it or the product thereof shall become unwholesome for human food,

Shall be guilty of a misdemeanor, and for each and every such misdemeanor shall be fined not less than $3 nor more than $100, or confined in the county jail not exceeding one year, or both, in the discretion of the court."

1876-77, 83-87, 92, 97-99, 1900

OFFICERS OF THE ASSOCIATION

FOR 1877.

PRESIDENT,

DR. J. TEFFT, ELGIN, ILL.

VICE-PRESIDENTS.

PROF. FRANK H. HALL, Sugar Grove, Illinois.
DR. J. WOODWARD, Marengo, Illinois.
C. C. BUELL, Rock Falls, Illinois.

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The fourth and next annual meeting of the Association will be held at the city of Elgin, Tuesday, Wednesday and Thursday, December 11, 12 and 13, 1877.

MEMBERS OF THE ILLINOIS STATE DAIRYMEN'S ASSOCIATION.

Adams, D. C	Dundee,	Illinois.
Adams, Guy	Elgin,	"
Albro, Ira	Wayne,	"
Baltz, Chas	Chicago,	"
Barclay, D. F	Elgin,	"
Barnard, Hon. A. S	Lisle,	"
Bartholomew, S. K	Marengo,	"
Bartlett, L	Bartlett,	"
Bierman H	Elgin,	"
Bishop, Thomas	"	"
Boies, Israel	Marengo,	"
Boies, Wm	"	"
Bosworth, F. S	Elgin,	"
Bosworth, I. C	"	"
Brown Geo. E	"	"
Brown, L. M	Lake County,	"
Browning, J. H	Elgin,	"
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Bryant, E. W	Princeton,	"
Buell, C. C	Rock Falls,	"
Bumgartner Bros	Frankfort,	"
Burns, R. C	Elgin,	"
Burritt, Peter	"	"
Burton, Wm	Genoa,	"
Carpenter, Hon. J. A	Elgin,	"
Chapman, S	Oneida,	"
Chapman, S. W	Elgin,	"
Christian, D. L	Peotone,	"
Church, A. B	Elgin,	"
Church C. C	"	"
Church, M. K	Barrington,	"
Clark, John	Somonauk,	"
Cole & Craft	Gray Willow,	"
Corron, W. T	Elgin,	"
Cornwell, B	Boone County,	"
Cox, B	Elgin,	"
Davidson, O	Elgin,	"
Eddy, John	Harmony,	"
Eldred, N.	Gilman,	"
Emmert, W. P	Freeport,	"
Fairrington, C. W	Rockford,	"
Ferris, C. J	Galesbnrg,	"
Fisher, H	Carpenterville,	"
Ford, H. L	Geneva,	"
Gage, J. H	Udina,	"
Garnhard, R. G	Ogle County,	"
Gillett, Edw	Aurora,	"
Gillilan, John	Algonquin,	"
Gould, C. W	Elgin,	"
Griggs E. H	Gray Willow,	"

Hall, Frank H	Sugar Grove,	Illinois.
Hammond, D. S	Elgin,	"
Hammond, H. A	Belvidere,	"
Handy, Saml	Downer's Grove,	"
Hatch, Isaac	Little Rock,	"
Hawthorne, Geo. E	Elgin,	"
Heideman, A	"	"
Henning, W. J	Plano,	"
Hess, W. H	Campton,	"
Holt, D. M	Rockford,	"
Huntley, Thos. S.	Huntley,	"
Johnson, D	Elgin,	"
Keating, John	"	"
Ketchum, E. G	Dundee,	"
Kingsley, J. M	Barrington,	"
Kingsley. S. W	Dundee,	"
Klock, Chas	Clintonville,	"
Lake, G. W	Gray Willow,	"
Larkin, C. H	Elgin,	"
Lester, Fred	Salt Creek,	"
Lord, G. P	Elgin,	"
Lovell, A	Sycamore,	"
Mann & Sherwin	Elgin,	"
Mead, H. W	Hebron,	"
Milsom, Thos	Flora,	"
Mitchell, David	Algonquin,	"
Moran, P	Chicago,	"
Morrow, G. E	Champaign,	"
Munn, T. E	Belvidere,	"
Murphy, Thos		
McAllister, O. S	Hampshire,	"
McDermaid, Palmer	Rockford,	"
McClure, F. L	Elgin,	"
McLean, J. R	"	"
McQueen, John A	"	"
Maramour, D. H	Lisle,	"
Nolting, A	Elgin,	"
Olmstead, Geo	Genoa,	"
Osgood, W. F	St. Charles,	"
Patridge, L. H	Millington,	"
Patten, Wm	Sandwich,	"
Panton, Wm	Clintonville,	"
Probert, Chas. L	Gray Willow,	"
Richards, D	Chicago,	"
Richards, T. McD	Woodstock,	"
Rogers, John	Burlington,	"
Root, A. W	Elgin,	"
Russell, I. N	"	"
Scofield, D. C	"	"
Severy. D	Leland,	"
Seward, E. H	Marengo,	"
Shedden, Andrew	Udina,	"
Shelden, L. W	Union,	"
Sherman, Henry	Elgin,	"
Shepperd, Frank	"	"
Slade, S. M	"	"
Smallwood, John	Freeport,	"
Stevens, C. V	Somonauk,	"
Stewart, Wm. H	Woodstock,	"
Stoll, H. C	Frankfort,	"

Stone, R. R	Elgin,	Illinois.
Swain, Henry	Oconomowoc,	Wisconsin.
Switzer, M	St. Charles,	Illinois.
Tazewell, Jas	Elgin,	"
Tefft, E. A	Clintonville,	"
Tefft, Joseph	Elgin,	"
Tefft, Jon	"	"
Thompson, A	"	"
Thompson, M. H	"	"
Thompson, T	"	"
Todd, A. W	Flora,	"
Tutttle, Milo	Sandwich,	"
Waldron, E. D	Elgin,	"
Wanzer, I. H	"	"
Ward, L. C	St. Charles,	"
Ward, S	Lemont,	"
Washburn, Jas	S. La Fox,	"
Waterman, G. W	Barrington,	"
Wheeler, S. M	Elgin,	"
Wilcox, S	"	"
Wilson, H	"	"
Wilson, L. F	Flora,	"
Wood, D. E	Huntley,	"
Wood, Jackson	"	"
Wright, F. W	Elgin,	"
Wright, S. N	Clintonville,	"
Wright, Thos	La Salle County,	"
Wilder, C. H	Evansville,	Wisconsin.

HONORARY MEMBERS.

W. W. Corbett, *Prairie Farmer.*

R. P. McGlincy, *Elgin Advocate.*

T. H. Glenn, *Western Rural.*

C. S. Kilbourne, Cor. *Chicago Times.*

CONSTITUTION.

SECTION 1. This Association shall be known as the Illinois State Dairymen's Association.

SEC. 2. The officers of this Association shall consist of a President, one Vice-President from every county in the State represented in the dairy interest, a Secretary and a Treasurer.

SEC. 3. The officers of this Association shall be elected by acclamation at the annual meeting, to be held on the second Thursday in December in each year, having been previously nominated by a committee appointed for that purpose.

SEC. 4. The place and time of meeting shall be designated at each previous meeting.

SEC. 5. The objects of this Association shall be the encouragement of the dairy interests of our State, with mutual improvement as relates to dairy interests in manufacturing and marketing the product of our dairies.

SEC. 6. Persons may become members of this Association by the payment of an annual fee of $1.00.

SEC. 7. The officers of this Association shall constitute an Executive Board for the transaction of business.

SEC. 8. The Constitution of this Association may be altered at any regular meeting of the Association, on giving notice at the previous meeting of such intention.

December 15, 1876.—The following amendment was added to the Constitution:

"That Sec. 2 be so amended as to read: The officers of this Association shall consist of a President and three Vice-Presidents, a Secretary and Treasurer. There shall also be elected, or appointed, three trustees in each county of this State represented, or that may hereafter be represented in the convention, who shall be charged with the interests of the Association in their respective counties, and whose further duty it shall be to report to the officers of the Association annually, or oftener, if required, the statistics of the dairy interests in their respective counties.

"SEC. 3. The officers of this Association shall be elected by ballot, no member being entitled to a vote who has not paid his initiation fee for the year.

"SEC. 9. The Association shall have full power to make such Rules and By-Laws as shall be deemed advisable."

PROGRAMME OF THE THIRD ANNUAL MEETING.

The Executive Committee of the Illinois State Dairymen's Association arranged the following programme for the Third Annual meeting of the Association:

1. Address of Welcome, - - - - - - By the PRESIDENT.

2. The supply and demand of dairy products, and their future markets.
HON. S. WILCOX, Elgin; C. H. WILDER, Wis.; H. W. MEAD, HEBRON.

3. The best plan to avoid the low prices which usually prevail for butter and cheese during the summer months.
R. R. STONE, Elgin; R. W. STEWART, Hebron.

4. Manure. How to care for and apply it.
JOHN KEATING, Elgin; C. H. LARKIN, Elgin.

5. The best method of improving and supplying the dairy; different breeds, and their adaptation to our climate.
D. SEVERY, Leland; HON. WM. PATTEN, Sandwich; GEO. E. BROWN, Elgin.

6. The manufacture of skimmed cheese. Is it injurious or beneficial to the dairy interests.
HON. S. WILCOX, Elgin; D. E. WOOD, Huntley; A. H. BARBER, Chicago.

7. Marketing dairy products.
J. R. McLEAN, Elgin; WM. H. STEWART, Woodstock.

8. The best and cheapest feed to keep up the supply of milk during the summer drought.
S. W. KINGSLEY, Barrington; THOS. BISHOP, Elgin.

9. Grasses. The best varieties for hay and pasture, as adapted to our climate and soils
W. J. BURDICK, White Water, Wis.; C. C. BUELL, Rock Falls; S. WILCOX, Elgin.

10. How shall we improve the dairy interest in Illinois?
ISRAEL BOIES, Byron; C. C. BUELL, Rock Falls; G. P. LORD, Elgin; R. R. STONE, Elgin.

11. What are the essential requirements of a good dairy farm?
R. W. STEWART, Hebron; C. C. BUELL, Rock Falls; M. H. THOMPSON, Elgin.

12. What is the best and most economical mode of handling milk to make butter from small dairies, from five to twenty-five cows?
C. GILBERT, Marengo; S. K. BARTHOLOMEW, Marengo; HON. S. WILCOX, Elgin.

13. To what extent may soiling be profitably substituted for pasturage?
D. C. SCOFIELD, Elgin; W. D. HENNING, Plano.

14. Can summer butter be so handled and packed that it will retain its freshness and sweetness for winter use?
N. ELDRED, Gilman; C. C. BUELL, Rock Falls; L. BOIES, Marengo.

15. Can the dairymen of Illinois profitably raise calves to supply the dairy?
I. H. WANZER, Elgin; WM. BOIES, Byron; E. H. SEWARD, Marengo.

16. *Resolved*, That the display of dairy products at the American Centennial has been of great benefit to the dairy interest at large.

ILLINOIS STATE DAIRYMEN'S ASSOCIATION.

THIRD ANNUAL MEETING

AT ELGIN, DECEMBER 12TH, 13TH AND 14TH, 1876.

The third annual convention of this Association was held at Elgin, Ill., commencing December 12, and closing on the 14th. It was by far the most important convention yet held by this Association. Many new members were in attendance, some ten or twelve counties in the State being represented, extending from the State line on the north to Clay county on the south. Many able papers were read before the convention. Many of the figures given in those papers which we believe to be strictly correct, are really enormous, and only show the rapid growth of this great agricultural industry.

The convention was called to order at 1:30 p. m. on Tuesday, by DR. J. TEFFT, president of the Association, who delivered the following address, which was well received by the Association.

DR. TEFFT'S ADDRESS.

FELLOW CITIZENS, DAIRYMEN OF ILLINOIS:—A few years ago the Illinois State Dairymen's Association was inaugurated, the object of which was for social intercourse, enjoyment and mutual improvement of its members. For the furthering of this purpose we meet here to-day, and before proceeding to further business you will please allow me, as a dairyman of Illinois and a citizen of this city, to extend to you, one and all, a hearty welcome to this hall, to this city of ours, and to the homes and hearts of all well-wishers of this great, though as yet infantile, dairy interest in this thriving State of ours. We would say again, we most cordially welcome you here amongst us, hoping and trusting as we do, that you may profit and we improve by your sojourn with us during the deliberations of this Association.

The age in which we are permitted to inhabit this terrestrial globe of ours is replete with important events, and we are making rapid strides in progress and improvement. If you wish evidence of this, turn your mind's eye back fifty or one hundred years and compare the dairy interests then with now. We need not confine ourselves to the dairy interests alone to note progress. Look, if you please, at our railways, which almost annihilate time and distance as compared with former modes of travel. Take a glance at our telegraph system, which is able to transmit thought thousands of miles across oceans ahead of time. Look, if you please, at our monitors, which put to trembling the navies of the entire civilized world. And last, though not by any means least, behold the great Centennial exposition, which closed its session only a few days ago. Here were found the representatives, together with their products, from all, or nearly all, civilized nations of the globe.

The coming together, the mingling and commingling and change of thought with thought will, we hope and trust, serve to elevate the morals of nations, and bring about a rightful mode of settling differences other than by that barbarous custom of war, and thereby allow our monitors to be made into plowshares, and the other implements of war into milk pails, cheese-vats and cheese-presses.

Less than half a century ago the red man was wont to roam over these prairies with tomahawk and scalping-knife, bedewed with the crimson gore of the newly slain victim who had chanced to struggle this way, attracted or allured by a beautiful faced country, or by a salubrious climate with a rich and fertile soil, to seek a western home, although deprived by so doing of many of the necessary and social comforts of life. It was here, in the valley of the great Father of Waters, that the western bound traveler sat himself down on a soil of virgin purity, glowing with vegetation in all its pristine beauty. Here it was that the young stalwart farmer, together with the elderly gray-headed man, commenced opening up the soil; and although scarce fifty years have elapsed, yet we are favorably known for the amount of cereals, pork, beef, butter and cheese we have raised or manufactured and put upon the various markets of the world.

Behold us then in our infancy with a large surplus product for sale in foreign markets, and tell us, if you please, what will become of our products when we grow to adult age?

The question is frequently asked, of what use are these dairy conventions? In answer to that question allow me to say that in my judgment, to many they are of but little use; but to the inquiring, thinking mind, they are of much benefit. Subjects are here brought up of vast interest to the dairyman and agriculturist, and widely discussed.

The great moving power of the human machine is thought, and whatever stimulates us to rightful thought is of vast interest to us, no matter whether in this convention or elsewhere. Mankind, as a general thing, are prone to pass over many important subjects with far too little thought. It is much easier to tramp on in the old beaten pathway of our forefathers than to turn aside to look for a better or more improved one.

Progress and improvement are the direct results of mature thought rightfully applied. The man who thinks, and keeps his thoughts hidden in the recesses of his own cranium, is of but little use as a thinker to his fellow-men generally.

Mankind usually express their thoughts orally or by writing the same, and as most farmers and dairymen have not the time to spend in writing and publishing books, but can spend a day or two in convention and orally give to the public or to all who may choose to come and hear, their experience, acquired by long and careful observation of facts which have transpired under their own management of the farm and dairy.

We are led to believe that there are many improvements in the dairy and in the management of the same since Abel, the second son of Adam, made his offering to God of milk and the first fruits of his flock, which was made in the year of the world 129, or 5251 years ago. It appears by record that God was delighted with the oblation, and we have no reason to doubt but his blessing still rests upon all honest dairymen even to this day.

On motion, the amendments made to the constitution last year were now taken up and confirmed by the Association, and a committee to prepare and report a set of by-laws, was appointed, consisting of I. H. WANZER, Elgin; Hon. W. PATTEN, Sandwich; and C. J. FERRIS, Galesburg.

Question No. 1 of the programme, "The Supply and Demand of Dairy Products and their Future Markets," was then taken up, and the discussion opened by Hon. S. WILCOX, of Elgin, who said it was a difficult question to discuss—it was very difficult to ascertain the exact amount manufactured or consumed, neither could he tell the amount annually exported. He believed the demand depended a great deal, if not wholly, upon the quality. A few years ago cheese was a luxury; now it is a necessity; we must all have it, and we do not argue the price if it is only good—a good article will be used more freely than a poor one. There is a vast amount of poor cheese made in the northwest—no real good cheese can be found in the market, which is a lamentable fact; in the early days we had only rude and primitive apparatus, but made good cheese; now its glory has departed. The quality in a great measure decides the quantity. Wisconsin made a better article of cheese than Illinois; they do not skim as much; it commands a readier sale and brings them more money; this skimming to death diminishes the demand. Skimming the milk for butter and then working the *blue remains* into *stuff* called cheese was a fraud, and was most certainly ruining the standard of our product. He knew the factorymen claimed there was a demand for it—that they could sell it, and could get more money out of the milk—but it was only for a short time; the re-action would certainly be serious as far as supply and demand were concerned; the supply should certainly be of a better quality. The price of butter is high enough, but the cheese is too high for the miserable stuff. The great difficulty arose from the mode in which most of the factories are run. The factory is furnished its milk by the farmer, and works it up on commission. The factoryman has but little interest in the quality or price of his goods as long as his commission is a fixed amount, and can not be affected by what his product brings. His only interest is to produce as much as he can, as his pay is by the pound. The milk should be bought at all factories; they should then take care to produce a good article—they would be compelled too, to find sale for their goods; they could then sell at will, or hold to suit the market. As it now is, the dairymen furnish the most of the capital to run the concern, and have but little to say about it. Milk should never be worked up on commission. We do not now produce one quarter of what our land is capable of producing. If we produce more with the same investment we can afford to produce cheaper and make a profit. We must have a change, or many dairymen who are depending upon outside factories for a sale of their milk must go out of the business, as it certainly will not pay. No factory should make anything but a first-class product. Who would ship this miserable stuff? We might as well throw it into Boston Harbor. Our great market is our home market. We must take care of that—make an article so good that a consumer will make a second purchase.

Three-fourths of our whole country is not capable of producing their dairy products; we being more favored with those essentials of a dairy region, must supply them, and we must be careful not to let this great industry be taken from us by some other locality, whose people will profit by our mistakes. The fact is we can not find in the home grocery a single good cheese unless it is imported. We refuse to use it; it is a mockery; when new, it is fair, but when cut—that is the last of it. The future of the business he considered flattering, as there would always be a good demand for a good article.

J. R. McLean felt aroused at the broad denunciation of *skimmed cheese* by Judge Wilcox ; he said on the Elgin Board of Trade there certainly was a great demand for this kind of cheese. Reform, he said, was the watchword, and people had now become so reformed they really liked skimmed cheese, and were willing to pay for it. It was a fact that full cream cheese would not sell as readily as skimmed; there was only one cent per pound difference in price, and often not that in quality. The fact is the people have been so reformed they will not eat full cream cheese any longer. Dealers would not buy full cream cheese—could not keep and could not sell it; the fact is, it is hard to sell a genuine article of food. Split bean coffee, spurious tea and sanded sugars meet with ready sale; could not see how we could get along without the skimmed cheese.

Dr. R. R. Stone said he thought the two gentlemen who had preceded him were extremists; he thought there was a happy medium which could be adopted and not follow either of these extremes. Had been twelve years in the cheese business. In early times he made cheese the same as he made hay or pork, and sold once a year; it was then old and tough and strong enough to do house work; but our people were used to it, and so they liked it. But as fashion changes, so does the table. The demand was now for a *mild cheese*, which meant skimmed; you cannot keep full cream cheese—it becomes stringy and sharp. We receive orders for mild cheeses—we ship skimmed. They fill the bill and we receive our pay, and that is the end of it; but should we ship *full cream* cheese, the end would not be yet. The trouble is a large amount of cheese is made in the season when there is no demand for it; *i. e.*, when fresh fruits are abundant. It seriously affected the consumption of cheese. If none was made in winter, when it was wanted, a good price could be obtained. Skimmed cheese, in the long run, is a damage to the business; if you are compelled to hold it a month or two it is not fit to eat. It is also difficult to have a dairy in flush milk just when you want them, but if it could be so arranged as to make the milk in winter it would seem best. Did not agree with Judge Wilcox that all factorymen should buy the milk at the beginning of the whole season, for the reason that milk and its products were as liable to fluctuate in price as any other commodity, and it would seem only fair and just that the dairymen should bear a portion of the burden. The same practice is pursued in the Northwest as that in New York and the Eastern States. There is no guess work about it; each patron knows just what the dividend is. All have an interest, but none greater than the factoryman; his reputation is at stake, and often times his all in property. The commission is best, and comes the nearest to exact justice. The factorymen must guarantee the product; patrons must be made whole and pay for no blunders. The quality should always be good. We are now improving much faster in the line of butter making than cheese making, and this is the natural consequence; cheese must be made by outside factories while those with better facilities must make the butter. Our superior advantages for butter making were fully established by the Centennial exhibit of dairy products, when the West received eleven out of the fifteen prizes awarded.

The West was fast surpassing the East in dairying. Every thing seems to be in our favor. As a whole our land was better and far cheaper, and the freights are in our favor, as it costs only one half cent per pound more to put butter into the New York market from Elgin than from Central New York. With cheap lands, cheap feed, and abundance of good water, it would seem that the future prospects of our dairy interest were good. Fresh creamery butter would at all times command a good price, while old would always be a drug at low prices. All goods should be sold when ready for market.

Hon. WM. PATTEN, Sandwich, said a great deal depended on taste, as to price; he sent some finely made colored butter to Chicago market, and received thirty-three cents for it; by request he sent some uncolored equally good, and received only twenty-three cents per pound. He concluded that if one sixth per cent. used in coloring added nine cents to his profits they might have the coloring.

"The best plan to avoid the low prices which usually prevail for butter and cheese during the summer months," was opened by Dr. Stone, who said the essential points of this question were embodied in the first. It was an important question, and if anyone could help us out of this dilemma he would confer a great blessing upon the dairymen. When milk sells for fifty cents per hundred pounds in July, and a dollar and a half in January, something is wrong. If it were not for that *reformed* taste, we could hold the summer product for winter prices; but as it now is, let the dealer hold summer products for six months, and he will continue to hold them the rest of his lifetime. Taste is the thing at last. People will not eat old cheese or butter. The only way out is to make more milk in winter, when everybody wants it. Would make most when demand is greatest. In June and July milk is always low, in January it is always high; and the butter wanted is not to be had—*i. e.*, good butter. Poorly fed cows in winter make poor butter. If a winter article is made, cows must be well cared for and well grained, or the product will be as poor as July.

Mr. Patten would like the experience of some practical winter dairyman.

E. G. KETCHUM was called for, who said he had never kept exact figures as to the net profits of a winter dairy, but was in favor of winter dairying.

E. H. Seward had kept a winter dairy. Thought it more profitable than a summer dairy. Milk is richer in winter, with better yield and better product. Much less cheese is used in warm weather while fruit is being used. We are certainly making a poor article of cheese when we skim grass milk.

It costs more to make milk in winter than in summer, and we get more for it and have more time to take care of it. Feed always pays. He believed it cost one-sixth more to make milk in winter than in summer. Hay must be cut for winter, while in summer the cow cuts her own hay. The manure made by a winter dairy was very valuable, while that made by a summer dairy was in a great measure lost.

Prof. Hall, of Sugar Grove, said he considered it a fact that we never throw away feed if the cow is a good animal. It takes a certain amount of feed to run the machine, and all feed beyond that amount gave a return. If the animal was worth feeding, it would seem that the winter season would yield the best profit. If butter is higher in winter, then make winter butter. He believed the same feed in winter would pay better than in summer, provided the animal was a good one and well kept.

Dr. R. R. Stone thought we were destroying the cheese market. Would rather have a skimmed cheese in December than a full cream in August; it would actually be a better cheese. The fact is, in winter no really good cheese are to be found. He feared the consumption would be materially lessened.

T. S. Huntley thought cows could be wintered cheaper than summered. It took so much land, and winter labor was much cheaper.

J. R. McLean wanted to have some figures from a practical winter dairyman.

John Keating thought that neither winter nor summer was most profitable, but a combined summer and winter was best and most natural. Had sold to the condensing company for seven years. Thought summer milk had paid him the best. No two farms would yield alike. Some had more pasture than others. He fed in summer during drought. If he fed grain summer and winter it would be hard to decide as to summer and winter profit It was a question of climate, drought, and many other local causes.

J. R. McLean thought to avoid low prices we must sell our product just as soon as the market will receive it. If held it closes the market. Must sell as soon as made.

D. C. Snow, McLean county, came to learn, but not to talk; but thought everyone having real, practical experience, should be willing to give it. He thought to make milk during the whole year the best plan would be to have his cows come in in December. Fed meal during the whole year, often as high as a peck per cow a day. It always paid to feed good milch cows.

Judge Wilcox said practically to have a dairy come in just as you desired had proved a failure. No one could calculate with any degree of certainty as long as so many calves are lost We can not buy good cows to keep up our milk in winter. To fill the place of every cow sold to a butcher occasioned a loss of fifteen dollars, at least. It was all well in theory, but not in practice. Had lost twenty to thirty calves in one dairy of forty to fifty cows. Could make no plans with any certainty.

J. Smallwood, Freeport, wanted to learn. He wanted to know the exact cost of making milk in winter as compared with summer. He thought the winter dairy much the best Would have two-thirds of his cows come in in September, and remainder in winter. Needed the sour milk in winter to feed pigs, as well as in summer; but the exact difference between the two seasons was what he wanted to know.

"Manure, How to Care For and How to Apply it," was taken up, and John Keating, of Elgin, delivered the following interesting address on the subject.

JOHN KEATING'S ADDRESS.

The subject of the present paper is one of the most important, perhaps *the* most important connected with the science and practice of agriculture. So important is it, indeed, that all experience has shown that on it, more than on any other one thing, hinges the failure or success of the agriculturist. The man who makes a large quantity of rich manure, and applies it properly, can not and will not fail of being successful. *Per contra*, the man who is careless on this point, who feeds his cattle poor and insufficient food, who allows his manure to be swept away by the winter's winds, and dried up by the summer's sun, though he may rise early and labor assiduously, is destined to failure and disappointment.

Time was, and that but recently, when this subject received very little serious consideration from the majority of the farmers of Illinois. The doctrine was then taught that the fertility of our prairies was inexhaustible, and that although in the East manure was indispensable to a crop, that in the West the happy farmer was freed from this laborious and expensive necessity. That time is past, and past forever. The fertility of our State is yet unimpaired. She yet bears crops of grass and grain which may challenge competition with those of any other State; and the secret of this continued fertility is, that the farmers of this State are fully awakened to the necessity of caring for their manures and properly applying them to their lands. It is impossible, in a limited article of this nature, to more than glance at the most important parts of this vast subject. How vast it is, and how much may be written on it without exhausting the subject, few realize. However, I shall not attempt to dwell on the subject in the minute and scientific manner with which Eastern agriculturists are familiar. I shall say nothing of mineral manures, or of artificial manures, of green manuring or of sewage manuring. I shall avoid all mention of super-phosphates and nitrates, of chlorides and sulphates, and shall confine myself to that of which I know something by actual experience; to that which I am convinced is the most important to Illinois farmers, the production, care and application of barnyard manure.

In the production of barnyard manure it should be the aim of every farmer to produce as much as possible. We want a quantity of fertilizing substances to cover our broad acres, and to make any recompense to our lands, for the abundant crops they bear us. This is one of the great difficulties with which we have to contend. Our farms are so large, and generally so insufficiently stocked, that it is impossible for most of us to produce annually anything like the quantity of manure that we so earnestly desire to use. The first thing, therefore, that we should do, is to stock our farms as heavily as the land will support, or as we can afford to buy, even if we were obliged to buy some extra grain to winter them. Having done this, we should remember that it is not alone in bulk that the value of manure consists. We should remember that quality is even more important than quantity. In order to get rich manure it is necessary that we feed our cattle nutritious and abundant food, and keep them in warm and comfortable barns.

The richer the food we feed the better will our manure be, and the difference in value, load for load, between the droppings of half starved and poorly kept animals, and those of others who are generously fed and warmly housed, is much greater than is generally supposed. Corn-meal, oats and bran, with good tame hay will make, I think, the best article that it is possible for us to get. I would here recommend the use of straw or cut cornstalks for bedding; they will absorb the liquid manure which would otherwise go to waste, and which is very valuable. There is also this advantage, that where we pile our manure and use much straw that there is no danger of losing ammonia by fermentation; the acids produced from the fermenting straw will hold all the ammonia found in the heap. What we want is good manure, and the richer it is and the bigger the pile the better.

The next point is to properly care for our manure, and this is a point that needs to be well dwelt upon. This indeed may be said to be our weak spot. Many of us make large quantities of rich manure, and then through carelessness suffer it to go to waste. Fortunes have been lost in this manner, fortunes are being lost by it now; the richness that would fill our corn-cribs with grain, our barns with hay, our pockets with greenbacks, is being swept into our rivers or absorbed by the air. Our cattle should not be allowed to range all over the farm in winter. They should be kept, when out of the barn, in a close yard where there is an abundant supply of good water, and where all the coarse feed of the farm which is not fed in the barn should be brought to them. This yard should not be exposed to running water; and the manure which will accumulate in it should at intervals be made into large piles, where it will ferment and decompose, and become fit food for plants. Manure cellars and sheds I do not speak of, because I believe that if we pile it in our yards or elsewhere where it is not exposed to water from roofs or running streams, the natural rainfall will be beneficial rather than detrimental to it, by assisting the decomposition and fermentation of the mass.

We now come to the application of manure to the soil, and here indeed we have a diversity of opinions. Some recommend to apply it in winter, others in spring, others again in autumn. Some would plow under green manure, others would top-dress grass lands with it, when well rotted. Those who advocate the hauling and spreading of green manure on grass lands during the winter, argue that the surface of the land is protected from sudden changes during the winter, and the first thaw carries the manure to the roots, where it causes a vigorous growth early in the spring. If the ground is plowed for a spring crop, it is also benefited by having the manure ready to be absorbed by the soil as soon as the ground thaws; the seed, as soon as it sprouts, finds what it needs close at hand.

They also argue that it is cheaper to haul it during the winter, when work is slack, and that by this course we escape the waste of manure in the yards. In answer to this it is said that in thawing manure upon frozen land much of it is carried off in spring by rains, particularly if there be much fall to the land. In hauling out green manure it is certain we haul out a great quantity of water—some estimate it as high as eighty per cent.—which is a waste of labor. I will simply say that from my own experience, which is limited, and from what I read of the experience of others, I am decidedly in favor of piling manure until it is thoroughly decomposed, and then of applying it as top-dressing to meadow land as soon as possible after haying.

In applying it at this time it will promote a vigorous growth of after math, which is valuable both for food for cattle and as a protection to the meadow in winter. Plants will not take up manure until it is decomposed. If applied in a fresh state to the soil, it must decompose in the soil before it is of any use to the plants. This takes a long time, especially in clayey land. Manure acts *quicker* for being fermented before being applied to the land. If you apply it to the land and it is not taken up the first year by the plants, the ammonia, phosphoric acid, and potash, enter into combination with certain ingredients in the soil, become nearly insoluble, and it takes time to get them back.

It is objected to top-dressing that there is a waste by evaporation; but the experiences of many years have shown that in top-dressing meadow land with well rotted manure, that there is no waste of anything but water, of which all barnyard manure contains a great deal. Again, it is said to give the grass a rank taste; but if it is well spread and thoroughly harrowed in, as it should be, this taste will be found not to exist. Another advantage of applying it in a well decomposed condition is, that it is reduced nearly one-half in bulk, we do not need to haul so much water, and at the same time its plant food is rendered more soluble.

John Johnson, of New York, who is a very high authority in such matters, says in the New York *Agriculturist*, that he has "found by actual trial, that one load of well rotted manure applied as top-dressing to grass land in the autumn, and the land plowed up and planted to corn in the spring, is worth as much as three loads of fresh manure plowed under.

E. H. SEWARD, Marengo, related some experiments made with various fertilizers by the Kishwaukee Club, of Marengo, Illinois. These experiments constituted several varieties of manures: barnyard, green and decomposed, plaster, salt, bone-dust, and ashes, put upon equal amounts of ground, with varied results, the test crop being corn, with the yield produced greatly in favor of salt as a fertilizer, the salt costing but four dollars per acre, while the barnyard manure cost eight dollars.

HON. WM. PATTEN said such experiments were of real importance, and afforded great satisfaction. Too much guess work had been indulged in by the farmer. He should know exactly the results of his labors. He had thought to draw green manure to the field the best plan. It always gave a good crop the second year. Did not think it best to let manure lie in yard over summer.

E. H. SEWARD, in regard to the experiment, maintained that exact accounts had been kept, and corn weighed.

Prof. HALL wanted to know if manure lost by evaporation.

JOHN KEATING thought that exaggerated. Thought it lost nothing.

WM. PATTEN thought manure piled in large piles would heat and burn out its value as a fertilizer.

Mr. KEATING said horse manure should not be piled, as it would heat and become worthless.

S. N. WRIGHT had had much experience with manures. Mineral manures acted as stimulants, and when once used must be kept up. It was like a man under the influence of liquor. When its strength was spent the land would run down. Barnyard manure was best. He piled his manure and spread on grass land. Had good results from fresh manure.

J. R. McLEAN would put out manure when green. For top-dressing he preferred fine manure, but for deep culture, green, plowed in.

E. G. KETCHUM thought what would apply to one farm would not to another. He took out his manure direct to the field, with as much water as possible. Thought this the best plan.

WM. PATTEN thought drainage had much to do with the product. He had three miles of tile; it was the best manure he had ever used. His land was clay subsoil. Tiling was the best investment a farmer could make. It costs about one dollar per foot, when down.

On motion, a committee on finance was now appointed, consisting of J. R. McLEAN, E. H. SEWARD, and B. COX. After voting to continue the last question to-morrow, the convention adjourned to meet at 9 a. m.

WEDNESDAY, 9 A. M.

Convention called to order, when Question No. 4 was taken up and discussed.

Hon. WM. PATTEN wished to hear from some one having experience with liquid manures.

Dr. J. WOODWARD, of Marengo, said he was a learner, and wanted to get facts. He added dressing and deposited in a plank box; let freeze and spread it upon the land in the spring. Did not approve of keeping manure in yard during summer—it will evaporate and lose much of its strength. Top-dressing was the best plan; even corn land should be top-dressed; it does not interfere with cultivation.

C. GILBERT, Union, said to draw out in spring was best. Did not like to top-dress for corn; it expended its strength in the sun; plowed shallow for corn. Liquid manure can only be saved by piling, unless great expense is incurred; it is best to draw out in winter.

Hon. WM. PATTEN drew out as fast as made; planted three courses of corn to each coat of manure; to draw out as made was the best plan to save the liquid manure. In summer milked in stable, and the urine was wasted; would like to know its value; could cisterns be used to collect it, and then pump it out? it is strong, and must be a powerful fertilizer; thought some kind of bedding might be used as an absorbent.

Dr. WOODWARD gave experiments made by Kishwaukee Club with various fertilizers, used upon three acres of land. Had taken old corn land, split the rows, put in liquid manure, and harrowed crosswise; drilled in the corn, and received fifteen tons of cured corn-fodder per acre, much of it growing thirteen feet high. One team could haul sixteen loads per day a distance of 360 rods. To use eight loads per acre, this plan, is better than sixteen loads per acre scattered upon the surface. Raised the best corn by this plan he ever raised;

it was clean and easy to cultivate; it cannot evaporate; always plants in drills; uses horse planters.

H. W. MEAD had always plowed deep to avoid evaporation. Would always plow all the land; did not like the furrow plow; it washed more than ordinary plowing, especially on rolling land.

C. H. LARKIN was called for. Had not matured any thoughts upon the supject It was certain that all plant food must be made acceptable to the plants, or it wonld do them no good —in fact, would not be received by them; and it must be applied so that the plants can easily obtain it. He, like many others, was running in the old rut. Barnyard manure should be housed; had experimented; housed manure was the best; all its properties could be saved in no other way, especially to use for small grains; for grass lands it is best to take to the field as fast as made. But few farmers had the means to properly protect and care for manure. Multching direct seemed to produce the best results; climatic changes had much to do with our grasses; grass roots were sensitive, and took up fertilizers readily.

ISRAEL BOIES had changed his views in regard to manures; had always supposed fine manure best for corn—had made a mistake; should have been on grass land; he now believed to draw direct from the stable to the land the best plan; it leached and wasted if allowed to remain in the yard. He now saved his liquid manure, using a cistern; could dip or pump it; his gutters descended to cistern. August and September was the best time to apply manure.

D. BRUMBACK, Gilman, thought manure from well fed cows much superior to that of poorly fed cattle; it was to pigs as cooked feed. Would like to hear from those of more experience.

D. C. SCOFIELD thought it an important question. We, as farmers, want a great deal of manure. Lime mixed with barnyard manure would ruin the whole pile, by heating; used to burn all the straw. Had seen a handful of straw put in each hill of corn, and the result was ten days earlier corn and better crop. One load of leached ashes on our land is worth four loads of common manure; night soil is still more valuable; in New York it is a great commodity; all farmers near large cities buy it to mix with common manure.

C. H. LARKIN was glad to hear of the use of lime as a fertilizer; would like the facts and reasons; why lime put in common manure piles would ruin the whole.

D. C. SCOFIELD—it burns itself to death; was not worth drawing to field.

C. H. LARKIN still wanted the facts and the reasons. To travel the same old road every year was a slow way to improve. Had used muck manure; it compared favorably with other manures; the immediate result was good; did not think it lasted as long; but owing to its convenient location in many places its claims should not be ignored by the farmer.

D. C. SCOFIELD had used muck; his mode was to put in large piles, and when rotten was applied to orchard; it lasted well; was a natural food for plants; was in favor of muck; it was purely vegetable; had used it for onions, which grew four times the usual size.

THOS. S. HUNTLEY thought to take out green manure was a great saving; it gathers nitre, which is beneficial to plants; all its properties are saved; it was certainly best to draw out fresh; in the East they manure in the hill; could raise ten bushels more corn per acre by this plan than to scatter broadcast.

THOS. BISHOP thought to let rot in heaps was best; drew all his poor hay and straw into yard; August and September was the time to put upon the land; always tried to make all he could; to draw in heaps in field when help was cheap was economy.

T. HUNTLEY had put manure in furrows when plowed; was a good plan; also plowed in straw; might not be good in dry season.

C. H. LARKIN had put fresh straw from machine on grass land with good results; tasted well. Wanted to know the scientific reason for the use of lime on our soils.

Thos. Bishop thought frozen manure in winter could not be handled to advantage.

Dr. **Woodward** had used plaster mixed with one-sixth lime; produced best wheat; as to applying with common manure, it drove off a large amount of water, thus burning the whole to death; if lime is used it should be slacked.

Prof. **Hall** said it was a fact that lands differed greatly in their elements to produce plant life; as to which of the many fertilizers was best for all soils, it was hard to tell; lime mixed with other manures tends to liberate ammonia, which is good for plants; lime of itself is not good, but as an agent, is useful.

E. H. **Seward** thought our soils by cultivation had exhausted the alkali left by the prairie fires of an early day, and that want must be supplied before we can again raise good wheat.

Prof. **Hall** promised to make practical experiments on corn, and find out "the one thing needful."

Mr. **Huntley** said at Salt Lake, where the soil abounded in alkali, and beans would not grow, all crops were good.

Dr. S. M. **Slade** put upon six acres of land 800 bushels of ashes, one half leached and the remainder unleached; could not perceive any difference as to fruit; had also tried lime from gas works which had been used for purifying; result, seventy-five bushels of corn per acre. Could detect little difference between the various fertilizers.

C. H. **Larkin** wanted to know if the alkali had not prevented ruin to soil, etc.

Dr. **Slade** could not tell all the results of applying alkali.

D. C. **Scofield** had had great experience with ashes; could not arrive at the exact difference between leached and unleached; was surprised to know that there was 400 bushels of old ashes in the town; would advise all to use them; he believed them to be the surest and quickest fertilizer used.

S. M. Slade said a certain piece of land enriched by the use of ashes thirty years ago, plainly showed the results to-day; in that locality they were bought by the ship-load—three cents for leached and eight cents for unleached.

Dr. Tefft said to know exactly how to apply ashes we must know exactly all the constituent elements of the soil, and this can only be obtained by chemical analysis.

Henry Sherman had destroyed foul strip by fire, and had seen good results from the ashes left, by an increase of crops on the lands so burned; believed in ashes.

Hon. Wm. Patten thought that ashes, as a fertilizer, took first rank; come to this conclusion by planting crops upon land which had been run over by fire. Farmers were too apt to continue year after year in the same old way; we must try experiments and obtain information from actual experience; had learned much at this convention; it was evident that what was good for one farm was not good for all farms; we must sift the chaff from the wheat, holding fast to the good.

Topic No. 5. "The best method of improving and supplying the dairy. Different breeds, and their adaptation to our climate."

Hon. Wm. Patten opened the discussion of this question by saying he had devoted a great deal of time and money to improving his dairy; considered the selection of a bull as important; had bred and used the short-horn stock with satisfactory results. There was great difference in the short-horn families as to the milking qualities; often had to "weed out" several each year to secure the best. Several years since he introduced the Holstein blood into his herd; could plainly see the effects yet by their excellence as milkers; only bred from the same strain about five years; thought Holsteins, as milkers, stood in the first rank; also was partial to milking families of short-horns. Some bulls would, if used for many years, destroy the milking qualities of your herd.

E. H. Seward, Marengo, thought the old Durham stock would not, as a race, be called good milkers. The Kentucky stock, of Clay importation, were poor milkers; they were a beef family; the "mahogany red" are perhaps the best. Dairymen should also have an eye to the beef qualities, or they would lose much; large cows do not consume any more feed than small ones. Had no experience with Ayrshires; Alderneys gave a small flow, but rich in cream and butter; but as a class we look more to quantity than to quality; would not recommend the same class of cattle to all farms.

C. Gilbert, Union, thought this question had been fully discussed in the Northwestern Association. He cared not for breed; it was a mere matter of selection; all breeds produce some good milkers. As to Durhams, calves three months old sell for eighteen to twenty dollars; same with Holsteins; can find just as good cows among native stock as among thorough breds.

D. C. Scofield thought the Bates blood of short-horns the best; should come in at two years old, and learned to be milkers young; should come in at flush of grass to make large udders; of this family, nine out of ten come in at two years old, in which case one is worth as much as two to come in older; would select calves from best bulls as well as best cows; had bred one half blood Durhams; were one-third larger and worth more money; calves should be well fed from beginning to maturity; full as much depends upon the male as the female.

Prof. Hall. The cow machine requires a certain amount of feed to keep it in operation, even though it accomplish no work in the production of milk or meat. Any portion of food that may be consumed and digested beyond this amount, is what gives to the farmer his profit. But the cow that converts a large portion of this surplus food into fat, will not have so much left to put into the milk pail. This is just what the short-horn cow does; consequently this cow can never excel as a dairy cow. If she should excel in this direction she would not be a first-class short-horn. Those with whom this valuable breed is a favorite, laugh at the Jerseys. They can see no beauty in a cow unless she be loaded with fat. They would not have one of the "scrawny Jerseys" in their herd. But, my dear sirs, the Jersey makes herself "scrawny" by putting a large proportion of the food given her into the milk pail, instead of upon her back. Therefore she is a better dairy cow. Not only does the Jersey cow do this, but she converts a wonderfully large proportion of her food into cream globules. Therefore she is exactly adapted to the butter dairy. "But," says my friend who breeds short-horns, "what is your cow worth when you are through milking her?" The question is unimportant to the butter dairyman. If I can find a cow that, upon the same amount of feed, will make annually fifty pounds of butter more than the average will make, and if I milk her ten years, I will have 500 pounds of butter, worth $125, to compensate for the difference in the value of the carcass, which will not be more than fifteen or twenty dollars. "But," says one, "will the Jersey cow do this?" I believe she will. It must be borne in mind that the short-horn machine is much larger, as a rule, than the Jersey machine; consequently much more food will be required to overcome its friction, and much more food will be consumed in a given time. Hence we do injustice to the Jerseys if we compare the product of a 700 pound Jersey with the product of a 1,500 pound short-horn. Now, not having been appointed to discuss this question, I am not prepared to present figures; but any comparison instituted between these two breeds should regard the food consumed and not the number of animals. Again, not only is the quantity of the product of the little Jerseys remarkable, but in quality it is superior to the butter product of the "beef breeds." With the same feed and the same care, Jersey butter made in January will be several shades better color than the product of the short-horns or natives. In August, with the same treatment, Jersey butter will be much firmer than butter made from the milk of other breeds. The average Jersey cow will give milk more days in the year than the average cow of any other breed. A cow in my herd gave us five pounds and three ounces of butter during four days in July, 1875. Five weeks from that time she dropped a calf which she had carried nine months and two weeks. From the milk of Oceana (herd book No. 439), we made one-half pound of butter per day two weeks before she dropped her calf in May, 1875. The calf (a bull) readily sold for twenty-five dollars when three days old. From these figures, and others which I have made from time to time, and from comparisons instituted between the breeds, I am led to this conclusion: We want the short-horns for beef, but for the butter dairy give us the "scrawny little Jersey," that puts her surplus feed into the milk pail, and *not upon her back.*

On motion of J. R. McLean the election of officers was made a special order for half past two o'clock this p. m.

On motion, adjourned to meet at 1:30 o'clock this p. m.

WEDNESDAY, 1 P. M.

Convention called to order as per adjournment.

On motion, WM. PATTEN, C. C. BUELL and THOS. HUNTLEY were made a committee to recommend suitable persons to act as trustees in the several counties represented, and to report to-morrow.

E. H. SEWARD spoke further as to breeds for the dairy; by a test at Marengo the short-horns took the premium.

Prof. HALL thought the experiment had not been carried far enough; he had made an exact test in his case The Jersey was much ahead; had large cream globules which rise easy.

Dr. TEFFT said he believed the globules of Jersey milk varied more than any other breed; to make an exact test of milk, all the circumstances must be known—time of churning, etc.

No. 7—"Marketing Dairy Products," was now taken up and opened by J. R. McLEAN, secretary of the Elgin Board of Trade, who gave many interesting statements as regards the sale and management of dairy products. He said to a few men in Elgin belongs the credit of building up the dairy interest to its present importance, and establishing the Elgin Board of Trade. It was evident that the board system was the only true one. To sell the vast amount of cheese produced in the Northwest by the old plan occasioned a great loss in shrinkage, and poor pay; five per cent., at least, was lost in weights. The saving by the board plan was of itself a nice dividend to patrons. Many attempts had been made to break down the Elgin board, but had so far ended in more firmly establishing it. The only expense to members being two dollars per annum, to make this great saving. Mr. McLean here gave the following figures as the transactions of the Elgin Dairy Board of Trade, since its organization:

1872.	Total sales butter and cheese			$ 81,000 00
1873.	" boxes cheese,	40,629—1,726,316 lbs;	butter, 62,061 lbs.	219,177 53
1874.	" " "	65,025—2,955,202 "	" 136,426 "	368,528 58
1875.	" " "	87,405—3,970,786 "	" 226,175 "	496,220 04
1876.	" " "	127,356—5,177,730 "	" 829,267 "	767,640 68

From the above figures it will appear that the transactions of the board are nearly ten times larger than the first year; no other evidence is needed to convince any farmer or dairyman in which direction his interest can be best cared for.

On motion of M. H. Thompson, the members of the press present were made honorary members of the Association.

The report of H. W. Mead, treasurer, was read, received, and filed; it showed $42.25 in the treasury, with no bills to pay.

The special order for 2:30 p. m., the election of officers, was now taken up. The chair appointed J. R. McLean and E. H. Seward as tellers.

A ballot was taken for president, which resulted in declaring Dr. Tefft unanimously elected.

The selection of three vice-presidents was now in order, when, on motion, the secretary was instructed to cast the entire vote of the Association for Prof. F. H. Hall, Dr. J. Woodward, and C. C. Buell, who were declared unanimously elected.

On motion, ISRAEL BOIES was instructed to cast the entire vote for M. H. THOMPSON for secretary, and he was declared elected.

On motion, C. C. BUELL cast the entire vote for H. W. MEAD for treasurer, and he was declared elected.

The following county trustees were elected, whose duty it is to gather dairy statistics in their respective counties, and collect such other information as may be of use to the Association:

Kane county—J. R. McLEAN, R. P. McGLINCY, E. G. KETCHUM.
Cook " —HON. JOHN WENTWORTH, DR. KENNICOTT, A. H. DALTON.
Boone county—Judge L. W. LAWRENCE, B. CORNWELL, T. E. MUNN.
Iroquois " —DAVID BRUMBACK, W. E. KIMBLOE, W. H. MANN.
De Kalb " —Hon. WM. PATTEN, DEXTER SEVERY, A. LOVELL.
Ogle " —ISRAEL BOIES, Byron; JEREMIAH DAVIS, Junction; WM. BAKER, Junction.
DuPage county—DAN'L DUNHAM, IRA ALBRO, PETER PRATT.
McHenry " —E. H. SEWARD, Dr. J. WOODWARD, T. McD. RICHARDS.
Stephenson " —JOHN SMALLWOOD, S. F. HENDERSON, JOHN SWENZA.
Clay county—THOS. WILSON; B. B. INGRAHAM, Gen. L. B. PARSON, Flora.
Whiteside county—JAS. HOWLAND, ROBT. GALT, JOSHUA ANTHONY.
Knox county—A. G. MILLER, Oneida; S. C. WOOD, C. J. FERRIS, Galesburg.

Topic No. 10—"How can we improve the dairy interests of Illinois?"—was now taken up, when ISRAEL BOIES, of Byron, read the following paper:

MR. BOIES' PAPER.

How can we improve the dairy interest of the State of Illinois?

First, by making it pay better—better cows, better care, and last but not least, better manufacturers. All the cows of the Northwest only average about 3,000 pounds of milk each. This does not pay. There is not a thinking, figuring man in the State who would go into dairying if he thought he could do no better. There are men who do far better. How do they do it? First, by selection of cows; next, by care; anything that is worth doing at all is worth doing well.

It costs, in the ordinary way of keeping a cow, twenty-five to twenty-seven dollars per year; will 3,000 pounds of milk pay this bill? Forty-two dollars and a half will keep a cow first-class a year, and that cow, if a good one, will yield you six to eight thousand pounds of milk. The sooner a poor cow —I mean a poor milker—is converted into beef, the better for the owner. No man can afford to milk a poor milker; no man should be satisfied with a less average of his entire dairy, than an average of 7,000 of good milk. Far better to have an average of 10,000 pounds. This last point will never be reached without great care and the choicest food, and no poor milkers.

The manufacture of milk here is a great waste. Three-fourths, and perhaps more, of the milk of the State of Illinois is manufactured on a percentage. This, in my opinion. is all wrong for the producer. Every manufacturer should buy his milk at a given price, and then if he does his business poorly it is his own loss, not the producer's. It now takes in the State of Illinois nearly eleven pounds of milk to make a pound of cured cheese; and twenty-seven to twenty-eight pounds of milk to a pound of butter. Part of this is chargeable to the producer, but a large part is chargeable to the manufacturer. Nine pounds of milk ought to make one pound of cured cheese, and twenty-three pounds one pound of choice butter. Now figure the difference in the net proceeds of one cow, and you will be astonished. It will make over ten dollars per cow, or $10,000,000 on 1,000,000 cows. I have not a doubt that the dairymen of the State of Illinois lose by bad management of their cows and the bad management of the manufacturers, $5,000,000 every year.

Thus now, if our associations can suggest, and the dairymen improve by their suggestions so that one-half the above sum be saved, we are amply paid for all our time and effort.

C. C. BUELL had no figures; he coincided in the main with Mr. BOIES; he thought it might be possible to make a pound of butter from twenty-three pounds of milk. The cows in the Northwest, as a whole, are "scalawags;" they are not what they ought to be; breeds have much to do with it; must look to improved methods of manufacturing; in New York the factory system was carried on with poor apparatus and no conveniences; if poor in that old State what must ours be in a new State? Many improvements can yet be made in buildings, apparatus, and breeds of cows, all of which will tend to improve our interests.

No. 8—"The best and cheapest feed to keep up the supply of milk during the summer drought," was called for, and S. W. KINGSLEY said he believed sowed or drilled corn or Hungarian grass the best article of food to keep up the milk during a dry time; this was the cheapest and most convenient for the farmer to resort to; he fed bran and meal all summer;

believed feed fed to good cows never thrown away; if green feed can not be had in season, grain was the only substitute he knew of; would always feed well.

T. **Bishop** said it was some time since a drought; there are many ways to make milk in a dry time; could not make it rain or make the grass grow. When milk is at four to six cents per gallon, it makes but little difference whether the flow is kept up or not; many farmers kept too much stock for their pastures. There were two sets of men in this convention to please; supply and demand was the great thing after all; must make the product scarce; we make too much —four to eight cents per gallon for milk! must not keep forty cows with only pasture for twenty; do not take to factory; it takes one-fourth of the whole to have it worked up; it costs no more to run a factory than a farm; we must lose one-fourth of all our milk on this factory plan; commission business in in the cheese business was a bad business. Our milkmen's wives, like blacksmiths' horses, go poorly shod; milkmen use no milk in the family, they are too poor; all must be sold; the men work from 4 a. m to 9 p. m.; no class of men work harder on poorer pay. The fact is, the product must be made scarcer; must buy less scalawag cows; we are no better off than when we had no cows.

S. N. **Wright** thought the question of feed was important; his bread and butter came from his cows; did not think it a good plan to pasture meadows; must not turn on pasture too soon in spring; wait till there is plenty of grass, so as to keep cows from roaming around the lots.

C. C. **Buell** did not think Mr. Bishop's argument good practical economy; the object could not be accomplished by making the product scarce, but by making it better, and by raising it cheaper; one will grow rich while another will grow poor, by merely producing cheaper. If we are to make our product scarce, we had better quit at once. We must make dairy products plenty, and learn to produce them cheaper; if we can produce cheaper than other places using higher-priced lands, then we will always have the advantage.

Hon. **Wm. Patten** thought it the true plan to make a good article as cheaply as possible; it was like a railroad; it would create its own demand. Could not endorse the theory advanced by Mr. Bishop; to cheapen production is the true plan.

D. C. Scofield said that when the first dairy club was formed at Elgin some dairymen refused to tell what they knew about dairying, for fear some one would learn something. Then our region was not known for its dairy business; one wagon load would flood the market; now we ship by the ton and by the car load, all over the world, at prices which the early dairymen never dreamed of

Israel Boies thought winter dairies did not feel the summer drought as much as summer dairies, fed on grass; give the cows all the good feed you can.

No. 14. "Can summer butter be so handled and packed that it will retain its freshness and sweetness for winter use?"

C. C. Buell read the following paper upon this question, and also gave his experience as to using brine in packing butter in summer.

C. C. BUELL'S PAPER.

Can summer butter be so handled and packed that it will retain its freshness and sweetness for winter use?

If an affirmative answer to this question means that butter can be kept through summer and autumn retaining its sweetness and freshness so as not readily to be distinguished from fresh, sweet butter, we can not attempt to maintain it. We have never seen any such and should lack the first and and most essential argument in the case. Moreover, if we understand the accepted theories as to what gives the butter the peculiar aroma and deliciousness of the best made fresh butter, we should not expect on general principles they could be retained—at least only in a very slight degree. We shall have to leave to our associates, therefore, the task of maintaining the affirmative in this sense if they desire so to do.

Whether butter can be thus preserved so as to be good, sweet, old butter, without rancidity or bad flavor, is another question, which we believe can be answered in the affirmative, and we propose to discuss it under three heads, viz.:—as to the place of storage, the package, and the contents.

1. As to the place of storage:

The first requirement is that it must be a cool place. A cellar or other apartment the temperature of which rises above 60° Fahrenheit, we do not believe will keep butter well under any conditions. The past season has been peculiarly unfavorable in respect to temperature. The heated term was long and extreme. Most cellars showed a temperature from 65° to 70°, hence many parties who have heretofore succeeded in keeping butter in their cellars, have failed this year. On the authority of Mr. Reall, of Philadelphia, a dirt or bank cellar cooled by the temperature of the surrounding earth, is better than an apartment cooled by ice. A deep cellar protected from the hot rays of the sun and remaining uniformly below the temperature of 60°, sweet and properly ventilated, is without doubt one of the very best places of storage for butter.

2. The package:

Butter, to remain sweet, no matter what the temperature, must be preserved from contact with air. In mid-winter, even, butter exposed to the air will soon become bad; in summer this will occur in much less time. The perfect butter package, therefore, will be air and water tight. The butter must be immersed (surrounded) by very strong, pure brine—or possibly, as some recommend, by strong brine with a little saltpetre and refined sugar added. It matters little what the shape, size or material of the package is provided this object is attained. As it was intimated at the beginning of this paper, butter can only remain sweet, and must be expected to loose a certain aroma and freshness of new butter. No long kept butter can be expected to remain in the class of fancy butter. A fancy or expensive package, therefore, is hardly in place in handling butter of this grade unless it is really better than a cheaper one and is so accepted by the trade. Now we know of no style of package so acceptable to the trade in butter, all things considered, for accomplishing the end desired, than the old style oak firkin. Properly prepared by soaking in hot brine, afterwards in cold, and handled in the approved methods, we consider it quite as reliable as any other, and decidedly cheaper than any other we know of. We express this opinion with our present knowledge of the trials made in this direction.

3. As to the contents:

The first thing to be said under this head is that butter to keep must be good butter—butter well handled from the milking to the packing—and nothing but butter. It is well understood that rancidity comes from that in the butter which is not butter—from the buteric acid which develops chemically, and the development of which is greatly hastened by bad handling; by the presence of caseine, buttermilk, water or other foreign substance not butter. We are inclined to think that the apparent quality of butter when first made is not a sure indication of its keeping quality. A poorer butter for present use seems sometimes to outkeep a better quality. The minutia of different processes of making butter we can not dwell upon here, although coming within the purview of this question.

Possibly right here lies in large part the solution of this question. Relying upon authority we could recommend different modes of procedure as the best, each condemning the other. This whole subject is still involved in much mystery, and what we need most is data furnished by experiments systematically and carefully made upon which to base conclusions. To individuals this involves serious expense—too serious to be thought of if the work is to be done thoroughly and well. We know of no more proper and important object of State aid than an experimental station in dairying.

Prof. HALL wanted to know as to washed and unwashed butter.

ISRAEL BOIES did not think worked butter would keep as well; had tried to keep in ice, but failed; he was now trying a new plan, by means of a cold air duct; that he had hit the exact thing—kept at 35° in summer. The butter must be entirely free from buttermilk; one spoonful of milk will spoil a tub; would exhibit a sample next year, kept twelve months by this new plan.

N. ELDRED then read the following paper upon this topic:

MR. ELDRED'S PAPER.

MR. PRESIDENT, LADIES AND GENTLEMEN:—Change is written upon all things with which we come in contact. Some of these changes are for the better, some for the worse. The strawberry, that ripens in your garden in a few hours, goes to decay, while the winter pear, hard and unpalatable in autumn, by mid-winter, becomes soft, juicy and melting. So in morals. Men change, sometimes from bad to good, often from bad to worse. Friendships formed in youth often change to hatred; sometimes they grow and increase in strength with the rolling years, and become strong as life itself. Butter is no exception to this law of change. It, too, often becomes strong, and, like Macbeth's deed, rank. But strength in butter is not a quality to be desired. It will not draw more money from your merchant by reason of its strength.

"Can summer butter be so handled and packed that it will retain its freshness and sweetness for winter use?"

This question has been under practical discussion for the past century, and all these years have not been able to show us that it may easily and cheaply be done. It is this difficulty of the doing it that makes the end desirable of attainment. For, were it readily and easily done, the supply of choice table butter would be nearly uniform through the year, and winter prices would not greatly exceed summer prices. Yet I conceive its attainment to be very desirable, as a portion of the summer make would then be carried over to winter, and that portion marketed in summer would bring better prices.

How to do it is the question of the hour. In order to the attainment of this desirable end I deem four things absolutely essential. First, the butter must be well made. I shall not stop to define this term well made; every dairyman before me understands it, and dairywoman too.

Second, it should be salted with pure salt. Prof. Arnold—my friend Mr. Wanzer and others here may not appreciate the authority—tells us in one of his published articles that salt is only added to butter because it better suits our taste; that it performs no office in preserving the butter, except as the brine formed by the salt helps to carry off its impurities; but that the impurities of impure salt help to decompose the cassine and other foreign substances, some little of which is left in our very best butter, and thus instead of preserving the butter, helps to destroy it. I do believe this matter of pure salt is of vital importance to the butter maker, and more particularly if the butter is not to go into early consumption.

Having made the butter well, and salted with pure salt, the third essential is to so pack it as to entirely exclude the air. Chemists tell us that fermentation can not go on without air, hence the importance of so packing as to entirely exclude it. Our common butter-tubs will not do this; worm-eaten firkins will not do it; even the best firkins made will not do it perfectly.

Ferments go on more or less rapidly according to the temperature. The higher the temperature (up to a certain point) the more rapid the ferment, and the lower the more the ferment is retarded, down to near 32°, where it ceases entirely. I consider, therefore, the fourth essential point in preserving summer butter for winter use, to be, it must be kept at a low temperature.

I had a theory that if butter was put up in packages perfectly air-tight, it would keep, regardless of temperature, and I tried a little experiment the past summer to test this theory. I had two small tin cans made. The first week in July I filled them and sealed them with wax, I think air-tight. I purposely kept them through the summer at a temperature of 70° and over. I opened them two weeks ago and found them utterly spoiled for table butter, and I might almost say for any culinary use whatever. Now one of two things is true—my theory was fallacious or the cans were not air-tight, and I am now satisfied that the theory was not correct.

In preserving fruits, meats, vegetables, etc., by the canning process, we destroy all the spores (the active principle in fermentation) by heat. Not so in packing butter; they remain in the butter, and there is also air enough in the butter to carry on fermentation if the temperature be high.

We can secure a low temperature in our hot summer climate only by the use of ice. In Chicago and other cities they build immense refrigerators for the preservation of meats, fruits, etc., and the advertisements sent through the country by parties interested tell wondrous stories of their preserving qualities. I condense an item or two I gathered from the New York *Independent* of three or four weeks ago, which although not so remarkable as some of the statements we find in the advertising circulars we meet, (subscribed and sworn to) nevertheless will answer our purpose if they are true:

A Mr. Robinson, a dealer in eggs and poultry at an interior village in New York, has erected an immense refrigerator for the preservation of the articles in which he deals. It is an immense ice-house with the ice stored in the upper story. In the summer of 1875 he bought eggs sufficient to pack 2,000 barrels. These were packed in chaff and cut straw and stored in this refrigerator till winter, when they were marketed fresh and good. Several thousand turkeys were bought during the winter, and after being frozen were stored in this refrigerator till May, when they were marketed in fine condition. Apples stored in it in October, 1875, are to-day as sound as when picked from the trees. A bag of lemons is also shown which has been on storage all summer and the fruit is perfectly preserved.

This aticle is probably an advertisement and exaggerates somewhat, yet I have no doubt but that butter may be kept in this way below 50°, and that would aid very greatly the keeping of summer butter for winter use.

During our nine years' residence in Iowa, it was our practice to buy (about the first week of June) butter sufficient to last us a year. My wife would pack it in stone jars with a little brine on top of the butter. The bottom of our cellar was gravel and I used to set them down in the gravel, so that the top of the jars was but little above the cellar bottom, and we never had a jar of poor butter. One spring we had a jar left over, and I sold it to the same merchant I bought it of—buying at fifteen and selling at thirty cents. And one season we summered over a surplus jar and used it the second winter in February and March, and it was good. Gen. Wilson, at that time editor of the Iowa *Homestead*, took tea with us one evening while we were using that butter, and remarked two or three times during the meal, "What beautiful butter you have. Why, I can buy no such butter as this in Des Moines." The fact that summer butter has been kept fresh and sweet for winter use is positive proof that it can be so kept.

To recapitulate: The four essentials for preserving summer butter for winter use or markets, are: It must be well made. It must be salted with pure salt. It must be so packed as to entirely exclude the air. It must be kept at a low temperature. If any one of these four conditions are wanting your butter will not keep. Yet after all I believe the best way to keep summer butter for winter use is to keep it in the grasses and the grains you provide for your dairy stock, until near the time you wish to market it. Kept in this way it will never become strong.

J. SMALLWOOD, Freeport, packed 200 pounds in six-gallon jars; filled nearly full, and then completed with salt; when done, he buried the whole in the ground one foot deep. Opened it last Monday. The freshness was gone, but it was not ruined; sold the most of it. Would like to hear from others.

Dr. TEFFT said it was a well known fact that butter was spoiled by a vegetable growth of spores. The secret of keeping butter was to put it where spores could not reach it. Fresh meats could be preserved by placing in an air-tight box, then exhaust the air, and when it enters let it pass through cotton batting, thus admitting air but excluding the spores. Butter can be kept in like manner.

Prof. HALL again called for information as to washed and unwashed butter.

I. BOIES once received order for unwashed butter, but soon after received orders to send no more unwashed butter.

Prof. HALL had used linen cloth to handle his butter with; it worked well, but the same could be accomplished by washing, with less labor.

C. C. BUELL thought fresh water not as good as a weak brine; had tried lime water with bad results; had found brine the best in hot weather.

The convention adjourned, to meet for evening session at 7 p. m.

EVENING SESSION.

WEDNESDAY, 7 P. M.

Convention called to order as per adjournment.

The resolution of C. C. BUELL, tending toward creating a special committee to make dairy experiments, and ask the State for funds for that end, was now discussed, when after a long debate it was deemed not advisable to take such action, not believing that the dairymen would ever receive expected benefit.

No. 9. "Grasses. The best varieties for hay and pasture, as adapted to our climate and soils."

C. C. BUELL was called for, who asked to be excused, as he had no figures at present on this important subject.

The chair now appointed Prof. HALL, D. C. SCOFIELD, and Dr. S. M. SLADE, as a committee on dairy implements and apparatus, to report to-morrow morning.

E. H. SEWARD said as to grasses, it was an important feature in the dairy interest. We had taken but little interest in this question; most farmers could not tell one grass from another. Red clover was, on the whole, the best fodder we had; it gave a large yield; rooted deep, thus loosening the soil; does not exhaust the strength of the land so much as timothy; in dry seasons it kills out. Red top is best for low lands, but is not good for hay or dry feed. June and blue grass are one and the same thing; it appeared different on different soils. A variety of seeds should be sown upon the the same land; we could then tell which was the best adapted to any particular soil or locality.

C. C. BUELL could not say much about grasses. Wild hay is said to be good for dairy use by some; he did not think so.

WM. PATTEN did not exactly agree as to blue grass and June grass being the same thing. Dutch clover was good for dairy use; would like to see it in more general use. Orchard grass was also good, and produced largely, and was hardy and well adapted to our soils.

Prof. HALL thought that June and blue grass was one and the same thing. For pasturage we must use a variety of seeds, so as to have fresh feed at all seasons of the year.

Judge WILCOX had experimented with grass seed. Bought one bushel each of orchard, red top, and timothy; mixed and sowed in nearly equal parts. The next year he had a magnificent crop of *weeds;* had to plow it up, and of course lost his seed and labor. Hungarian was good for dairy use; cows would eat it in preference to timothy, or any other hay. Last year he failed entirely with Hungarian; worms cut it down. Clover and timothy are the best for hay of anything he could find; must not pasture meadows too close, it is better not at all.

Prof. HALL inquired if anyone had cut timothy before heading out, and with what results. He had once cut two crops in one year; found it hard to cure.

Mr. MILSOM, of Clay county, wanted to know how much hay per acre was considered a fair crop; raised a large amount of red top in his county, more for seed than for hay.

Topic No. 10 was again resumed, when G. P. Lord, Esq., of Elgin, read the following paper:

G. P. LORD'S PAPER.

Mr. President and Gentlemen of the Convention:—"How shall we improve the dairy interest of Illinois?"

The importance of this question will be felt if we consider the vast amount of money invested in the dairy business. We have no statistics showing the amount invested in the State of Illinois.

It has been stated that there are 1,022 butter and cheese factories, 460,000 cows, and 1,380,000 acres of land in the State of New York devoted to this interest.

If the factories are estimated at $5,000 each, the cows at $40 per head, and the land at $50 per acre, then we have a total sum of $92,720,000 invested by the dairymen of New York. If to this we add the value of the horses, wagons, agricultural implements, etc., required for the prosecution of this branch of industry, we shall find it will amount to at least $100,000,000, which is invested in dairying in the State of New York. Adding to this the amount invested in the States of Ohio, Illinois and Wisconsin, and we find a capital of nearly if not quite $200,000,000 used in the dairy business in these four States, a fair proportion of which is invested in the State of Illinois.

How best to advance the interest of this branch of industry in this State is now under consideration. We shall be better prepared to devise means for advancing the dairy interest if we take a view of the obstacles and difficulties to be overcome.

One of these is the labor and expense of marketing the milk. This has to be done in seed time and harvest, mid rain and shine. If we take the average distance traveled by the dairymen in taking milk to the factory at three miles, we find that in the three hundred working days in a year he has traveled 1,800 miles, which is equal to sixty days' travel of thirty miles per day. Valuing this time at three dollars per day—the lowest price paid for man and team—and we find it has cost him in labor one hundred and eighty dollars per year to market his milk. To this must be added the cost of manufacturing and selling the product of the milk. The present charge for manufacturing and selling cheese is understood to be 2½ cents per pound. If we take the average product of the dairymen at six cans of milk per day, and allowing that each gallon of milk produces one pound of cheese, we shall find that it has cost $438 to manufacture and sell the cheese. Now taking these two items, the average annual expense in labor and money to each dairyman is $618. This with the interest at ten per cent. would in ten years amount to $9,000. Now if a dairy business be prosecuted on one farm by father and son for the space of forty years, the savings of these two items, with the interest at ten per cent., if treated as bankers treat their capital, would amount to over $200,000, which of itself would be a very handsome property to be divided among the children of the third generation.

Another difficulty in the business is in disposing of the milk. At times there is a great surplus; the factories are overtaxed; the market is overstocked, and the dairyman finds his milk on his hands, and as he has not provided himself with facilities for making butter and cheese, what he does in that line is done under such disadvantages that he is unable to produce anything but an article that grades below the standard in quality, and therefore has to be sold at a reduced price.

Another difficulty, and a very serious one, is that the dairyman has no voice in fixing the value of his product. If he sells it, he simply inquires of the buyer what price he has fixed on it. If it is taken to the factory to be manufactured and sold, he has only to take the avails as reported. Now we do not wish to be understood as even intimating that the factoryman does not report the avails correctly, or charge any want of honesty or fairness on his part. He may have disposed of the butter and cheese manufactured by him at the very highest prices paid at the time he made the sale, and still the facts are that his own interest is in no way affected by the prices which he receives. His is a fixed interest and does not and can not prompt him to the exercise of that care in the investigation of the "supply and demand" which will give him an intelligent view of the market, so that he may sell or hold his product as shall best promote the interest of his patrons.

A comparative view of the prices of cheese during the past few weeks, will afford some insight on this subject. As all are acquainted with the market price of cheese here, we shall only quote prices realized in New York. The average prices paid for cheese October 28, was as follows: Utica, 12½c.; Little Falls, 12¾c.; Herkimer, 12½c. November 6—Utica and Little Falls, 12½c. November 13—Utica, 12⅝c.; Little Falls, 13¼c.; Herkimer, 13c. November 20—Little Falls, 13¼c.; Herkimer, 13½c.; Utica, 13c. November 27—Utica, 13⅛c,; Little Falls, 13¼c.; Herkimer, 13½c. The prices realized for butter is higher in Elgin than those reported at the dairy centers of New York, and there would seem to be no good reason why the cheese sold should not bring as much here as there.

Another difficulty to be overcome is found in the perishable nature of milk, necessitating the best facilities for cooling and curing. We simply notice this difficulty. The necessity of having additional facilities for this purpose will be felt when we examine the system of dairying as now conducted in Denmark.

The practical workings of the law of supply and demand was finely illustrated in Utica, November 13. The demand was for cheese made in September, while the offerings were mostly of October make. One salesman, representing the Willow Grove factory at Trenton, had eight hundred boxes of September cheese, and availing himself of the advantages of his knowledge of the "stock on hand," refused to sell at less than fourteen cents per pound, at which price he closed the lot. This was three-fourths of a cent per pound above the extreme and one and one-eighth cents per pound above the average price paid at that time for cheese made in October. Nor has the demand for September cheese abated. The reports for November 27 say that cheese of September make would sell readily at fourteen cents per pound in the dairy markets of New York.

In selling it is frequently the height of wisdom to make haste slowly, and this is especially the case when the prices are so low as not to remunerate the producer.

How to overcome these difficulties; how to wring victory from apparent defeat, and so to advance the dairy interest of Illinois that it shall achieve the best results, is certainly worthy of careful consideration. That some other method of conducting the dairy business than that now pursued should be devised, is a felt necessity.

We have been much interested in the accounts we have seen of the value of what is termed "gilt edged" butter, which is the product of private dairies. Some time since one dairyman in Vermont inquired, through the columns of the *Country Gentleman*, why he could get but one dollar per pound for his butter while his neighbor got but one dollar and twenty-five cents for his, which was no better? During the present season we have seen an account of the "Philadelphia Gilt Edged Butter," which is put up in pound prints, wrapped in damp cloths, protected by ice, and sent to market and sold for one dollar per pound. All such butter is not only fine in flavor but is attractive in appearance, and the reputation of the maker gives assurance that it is uniformly of the highest grade. All of this class of butter is the product of private dairies. It could not be produced from milk that had been exposed to the heat of summer in taking to the factory, or had been mixed with milk from various dairies. This class of dairying will of course be confined to the few who can give their personal supervision to the business, and who have a special fancy for doing whatever they do in the very best possible way. To such it will afford great satisfaction and abundant remuneration. To the great number engaged in dairying a different system will be required.

We have been much interested in reading a sketch of an institution in Copenhagen, Denmark, established on what they term the "factory principle," by means of which Danish butter commands high prices in all quarters of the globe, and is sold in London in one pound tin cans at one shilling ten and a-half pence gold, or about fifty cents per pound currency, in quantities of not less than one hundred pounds.

It will be seen that this institution was established in 1863. Its chief business is to manufacture first-class butter and pack it in tins for exportation. It will be noticed that the system of heating the milk is such as to keep it in the most perfect state of preservation until all the butter and cheese is manufactured, and that the butter and cheese is of the most approved quality. The result as shown in the report is that the Danish dairymen get 62½ cents in gold, or about 30 cents currency for thirty pounds of milk, or at the rate of 2½ cents per pound. Read the account:

"In my report on Norway and Sweden, I gave figures and a description of a circular butter-making machine, which is occasionally seen on large dairy-farms in those countries, and is extensively used in Denmark. Machines of this kind are manufactured by Messrs. Caroc & Leth, of Aarhuus, and by Messrs. Hassel & Teudt, of Copenhagen. For farm purposes, machines having a diameter of from thirty inches to forty-five inches are most in request, and cost from £6 to £12 each, according to the size. They are capable of making from one to two hundred pounds of butter per day, each machine requiring the attention of only one dairymaid. For smaller occupations, a straight machine on the same principle, but of more simple construction (Steenstrup's patent), is manufactured by Messrs. Caroc & Leth, of Aarhuus, and by Messrs. S. H. Lundh & Co., of Christiana. It will 'make' about twenty pounds of butter daily, with very little labor on the part of the dairymaid, and its price is from 16s. to 30s. The process of 'making' consists in passing the butter under the grooved roller, thus expressing the buttermilk, which runs off along the grooves on each side of the machine.

"In the report of Mr. Rainals, dated May, 1860, it is stated that 'the butter, or the article sold in the market by the yeoman-farmers under that name, is execrably bad; it is strongly salted with the commonest salt, while in its preparation so little regard is paid to the proper extraction of the whey (*sic*), or even to cleanliness, that it appears strange that such produce can find sale.' All this has been changed, owing to the scientific exertions of Professor Segelcke, and the practical aid of Mr. Friis, of Lillerup. Professor Wilson has indicated in his report the efforts and the improvements made by these gentlemen in the *rationale* of butter-making, so I will content myself by giving a brief sketch of an institution established in Copenhagen on the factory principle, by means of which the best Danish butter commands high prices in all quarters of the globe, and is sold in London in one pound tins at 1s. 10½d. per pound, in quantities of not less than one hundred pounds. This institution is popularly known as the Scandinavian Preserved Butter Company, and trades under the style and title of Messrs. Busck, Jun., & Co. It was established in 1863, and has a subscribed capital of about £25,000. Its chief business is to manufacture first-class butter and pack it in tins for exportation. Most of this 'tinned' or 'preserved' butter comes to England for re-exportation to Brazil, India, and other tropical countries, for which purpose it fetches the high price just named. The premises, machinery, and organization of the company enable it to tin and turn out about ten tons of butter per diem, therefore it may be of interest to English dairy-farmers to learn the precise manner in which this result is arrived at.

"The company has contracts with a large number of dairy-farmers in Denmark and the south of Sweden; probably with not less than one hundred and fifty in the Danish monarchy alone, to the effect that they agree to deliver practically the whole of their butter to the company at stated times; the butter to be made and packed according to the regulations laid down by the said company. The chief features of the regulations are that the butter must be made from sweet cream, the whole of the buttermilk must not be expressed, and the butter must be packed in kegs properly prepared with a certain amount of salt upon the textile lining.

"Mr. Consul-General Westenholz has kindly favored me with the following note on this estalishment, and the process of butter-making, which it has recently prescribed:

"'Mr. Busck, Jr., who labors most indefatigably in what he has made his speciality, hired about three years ago from me, premises on a farm, 'Kaningaarden,' on my estate of Dronninggaard, twelve miles from Copenhagen, and bought the milk produced on my home farm by an average of one hundred and fifty milking cows, and established a school for teaching dairy-women, as well as for experiments with regard to obtaining the very finest produce.'

"According to the system to which Mr. Busck has come, which is now prescribed by the company for all first-class 'packing-butter,' the milk, set in small, deep, round cans, is placed in the tanks, which are then filled with ice (broken to pieces not much larger than walnuts) and cold water, the temperature of the milk being thus at once reduced to the lowest possible degree, say 40° to 45° Fahr. After twelve hours the milk is skimmed and the cream is immediately churned. When found inconvenient to churn twice a day, the cream, skimmed in the evening, is put in similar tin cans in ice and water, and thus kept till morning, then churned along with the morning cream. Cream from milk that has stood longer than twelve hours is on no consideration allowed to be used for first-class 'packing-butter.'

"This system, of course, cannot be carried out without ice, as no stream of water could reduce the temperature of the milk so speedily and so much as the ice, so as to bring all the cream to the top in the prescribed twelve hours.

"On this new system, 'ice, twelve hours' skimming, and sweet cream churning,' one may reckon on an average, thirty pounds of milk to yield one pound of first-class packing butter, the present value of which is 1s. 6⅜d., and say about 2¾ pounds of cheese, worth at least 1s., total 2s. 6⅜d.; while on the plan of skimming after twenty-four or thirty-six hours without ice, one can not calculate on more cream, while the value of the pound of butter is at present not above 1s. 4d., and the common skim milk cheese from the stale milk only 7d. to 8d., showing twenty per cent. in favor of the new system, which, of course, entails the expense of storing and preserving ice, but on the other hand in many respects saves labor, and gives a certainty of a uniform and superior quality, both of butter and cheese."

Now if it is true as reported in another paper on this subject, that the dairyman can keep one pig to each cow with the whey and buttermilk, and if the hogs when grown will bring ten dollars each above the cost of all other feed, and if such a system introduced into the dairy business of Illinois should prove as beneficial to its interests as it has been to the dairy interest of Denmark, it will be admitted that we have found the secret of advancing the dairy interest of Illinois.

You will have noticed that the business of the institution in Copenhagen is to buy all of the butter made by its patrons under certain prescribed rules, and to put it up in such a form as to give it the highest commercial value, and that the business is on so extensive a scale, and its product has been so uniformly good, that it has achieved a reputation in thirteen years that enables it to get the highest market price for its butter in the largest market of the world, and that this reputation accrues to the advantage of its patrons. It would be impossible for even the largest of its patrons to achieve such a reputation in a lifetime.

If some system not unlike this can be introduced into the dairy business of Illinois, and with results as beneficial as it has been in Denmark, our dairymen will not be under the necessity of practicing the most rigid economy with the hope that his savings may be distributed among his descendants of the third generation. He would have the pleasure of knowing that his own children would profit by his industry.

Judge WILCOX thought this an important subject. The plan of Mr. LORD was new to him, but it looked favorable; could not adopt it at once, but could make many improvements in our present system. Times are dull; all business is dull; we ought to have our cheese manufactured cheaper; two and a half cents per pound was too much; no factoryman has invested more than the value of a common farm. The dairyman is compelled to take his milk seven times a week; all the milk is sold; they raise no calves, no hogs; all they get from the farm is the milk: one quarter of the amount is paid for selling. It requires no more help to run a factory than a farm; the factoryman has no risk; the farmer is the man who is compelled to take all the risk; it does not seem fair. Where milk is made up by the pound, the factoryman has no real interest in the quality of the product; he gets just as much for a poor article as a good one; he merely is anxious as to the quantity. The Condensing company are particular in all respects; they take only good milk, and make only a good product. We can not educate people to eat poor food; we must change our mode of dairying, or some of us, at least, must go out of the business. It would seem to him that the best plan is, for every farmer who can, to make up his milk at home. One-fourth now goes to pay the factoryman, besides the wear and tear; they could save this fourth, and in the long run make more money, and much easier. Could see no way out unless we had a change, as prices were constantly on the decrease. We were now ruining our dairies by killing all our calves; by the home method we could raise our calves; the average dairy is not as good as it was five or six years ago; we should raise the calves from our best cows, and thus keep our standard up. The cows brought here for sale are all poor milkers—are not from milking families; we are constantly cheated.

Dr. R. R. STONE thought Judge WILCOX and Mr LORD a little severe on the factorymen; did not agree with them. The assertion that one factory could earn as much per annum as four or five farms was entirely imaginary; cheese factories all over the country could be bought for fifty cents on the dollar; why don't they invest, if it is such good property? The price of good butter in Elgin to-day is thirty-eight cents —higher than any other city reported; what has caused it? it is the factory system. The patrons of factories are all satisfied; all get their pay monthly. The idea that factorymen are oppressing the dairymen is all wrong; it is false; these statements are not true. It is the factory system alone and only which has made a permanent reputation for our product. Before the days of factories one wagon-load would glut the Elgin market; now train-loads find a ready market. The factory butter is A No. 1; it is tested on the Board of Trade, and is sold strictly upon its merits. Nearly all private dairies have stopped, and are taking their milk to the factories; they would not do so if it was not better. Skimmed cheese, seven years ago, sold for four cents; it now sells for *one cent* less than full cream. Factories get thirty-eight cents for butter, while the farmers can scarcely get twenty-five to thirty cents; which is the best? the farmer gets more by the factory system. The farmers have a committee of their own making to sell the cheese; there is no chance to cheat the farmer, even if anyone was so disposed.

Judge WILCOX thought Dr. STONE was wrong as to the patrons of cheese factories being satisfied; they did complain, and they had reason to; many complained to him, and said they must go out of the business unless a change was made. Although he did not sell milk to a cheese factory, he was directly interested; it all had its effect upon him in the general market.

Dr. STONE had no fault to find with fair statements, but could not indorse wholesale censure of factorymen.

C. C. BUELL wanted information as to warm and cold milk; what would be the results of setting at 40°? the longer it stands the plainer the line is seen. His plan of skimming was by the use of a dipper; would like information as to skimming when sour and when sweet, and the keeping qualities of butter from each.

G. P. LORD was willing to have anything stricken from his paper which reflected upon factorymen. He thought the Denmark plan the best one for our country.

On motion, adjourned to meet at 9 a. m. to-morrow.

THURSDAY, 9 A. M.

Convention called to order as per adjournment.

Topic No. 11. "What are the essential requirements of a good dairy farm?"

As the convention was drawing to a close it was agreed to discuss this question; and owing to the death of R. W. STEWART and the absence of C. C. BUELL, to whom was allotted this question, **M. H. THOMPSON** was called for, who said it was a mistake that his name appeared among the speakers upon this topic. The essentials of a good dairy farm were so numerous it was difficult to tell which were the most essential. First, you should have the farm, without slough, mountain, foul stuff, or mortgage. Second, good, commodious buildings, roomy, airy, and free from the thousand and one scents which linger around too many dairy barns. Plenty of good living water, furnished either by spring or wind-mill. The buildings should not be moved to the spring at some remote corner, but the water should be put exactly where it is the most convenient, summer and winter; often much time is wasted transporting milk and stock to water. Pastures should be so arranged that cows may step from the barnyard immediately into the pasture, if possible; driving cows a long distance to and from pasture in warm weather is certainly injurious, and it is always tempting to a boy or dog to be in too much of a hurry for the good of the poor, over-heated and over-stuffed cow. Pastures should be composed of as many varieties of land and soil as can well be secured; this is equivalent to many kinds of seeds on the same land, for when one portion is parched by drought another may be green and fresh. If water can be put in various parts of the pasture during the summer months cows will drink oftener, and not overdo the matter as is often the case where the only opportunity is afforded in the yard. Shade trees are among the essentials of any dairy farm—a luxury which any herd will avail themselves of during the heated season. In short, everything is an essential which tends to the comfort of the cow and at the same time reports to the dairyman's pocket. It is essential that the dairyman really have a liking for his business; there is no romance about the cow stable or barnyard, the only attraction is love for stock or filthy lucre. The dairy should be made to pay or the dairyman should quit the business. It is often the case with prosperous dairymen that the cows have a more comfortable abode than the dairyman's family, if he is careless and heedless as to the comforts of his home; this is all wrong. The home of a thriving dairyman should be a comfortable and (if he is able) a beautiful one. It is essential that this should be so, because as the sons and daughters grow up, unless they find comforts at home they will never become dairymen or dairymen's wives. Many dairymen believe that when cows are kept nothing else can be raised on the farm—no garden, no flowers, no ornamental trees, nothing but milk. This is a mistake. The dairyman should have as fine a garden as anyone; he should take time to cultivate all the vegetables in their season, for if anyone deserves a good comfortable living in this world it is the poor, much abused milkman.

Dr. WOODWARD did not want too much wet or low land; preferred rolling lands for dairy use. Kentucky blue grass was best adapted for a good dairy farm; it would run out all other grasses. Pure water was among the essentials; to be furnished by a well was as good as to have a running stream; watered from a tank; in hot weather cows would resort to stagnant pools if no other was at hand; his wind-mill was the best investment on his farm; had used it seven years.

E. H. SEWARD said the first thing to be looked at was its location. Buildings should be located as near the center of farm as possible, so as to save cartage; should embrace both high and low land; pastures should contain both. Water was very essential, but not running water; artificial means completely controlled the water question; running streams spoiled sufficient land to buy many mills.

THOS. BISHOP thought good pastures were among the essentials of a dairy farm; new were better than old; preferred rolling land, not too wet or too dry; upland stood more drought.

GEO. E. BROWN, importer of Holstein cattle, was now called upon to give his experience as to dairy stock, under Topic No. 5.

He said there were many good breeds for the dairy; no one breed possessed all the merits requisite for a good dairy. Perhaps no breed possessed so many good qualities as the Holstein; they were large cattle, of kind disposition, and well adapted to our climate. They were probably the purest bred cattle in the world. They were bred without forcing; were fed on grass wholly during the grass season in their native country; very little grain is fed, even in winter; in some instances fed oil cake; two quarts, or pounds, was a good feed per head. In Holland, bulls for service are selected by a committee. They are a first-class butter cow; the butter is good flavor and firm; does not raise cream as quick as Jersey milk. The milk possessed wonderful keeping qualities; the skimmed milk was as good as some cows' before skimming; nineteen pounds of milk had made one pound of butter. The breed originated in the duchy of Holstein, at a very early date.

E. H. SEWARD thought they were nearly akin to the Durhams as well as Ayrshires.

MR. BROWN thought the Durhams took some of their good qualities from the Holsteins. They became famous as milkers over five hundred years ago; people go from all parts of the world to Holland for them. All breeds have good points, but he believed this breed to be better adapted for the West than any other, the beef and milking qualities considered.

Prof. **HALL** asked as to time of raising cream.

Mr. **MITCHELL** asked the difference between the Holstein and Belted cattle.

GEO. E. BROWN said "Belted" was not the proper name. They are well known in Holland under the name of Lakenfelders; are a separate and distinct breed from Holsteins, and are bred mostly in south Holland and Belgium.

S. W. KINGSLEY spoke in favor of Holsteins for the dairy; believed them the best, all things considered.

Topic No. 12. "What is the best and most economical mode of handling milk to make butter from small dairies, of from five to twenty-five cows?"

Prof. **HALL** came to learn all about this question; hoped it would not pass without discussion, it was an important subject.

I. H. WANZER was called for; said his experience was with large, and not with small dairies.

Dr. **WOODWARD** said he would advise every farmer to build a creamery on his own place; he would then be more independent. It was difficult to get a good place to build a good creamery; it must be separate and alone from other buildings, with no vegetable matter in or near. His was 12x34 feet, one room 10x12, one 12x13, with refrigerator and ice house; cellar 12x24, walls eight feet high, ceiled over head; walls and roof filled with tan-bark; water was received from well by windmill. Sets his milk in pans of seventy or eighty gallons, with water flowing around; milk is carried to creamery as soon as milked, and cooled at once; cream is held thirty-six hours in hot weather; could make as good butter in hot weather as in cold. The home plan is the most independent way. When taken to a factory, no matter how good one's product, or how carefully he handles it, he can never make a reputation for himself; he is swallowed up in the whole. It takes time to earn a reputation; once earned it is as good as capital invested; it is a "trade mark," and has its real value. Some milk could at all times be fed to calves and hogs with profit.

B. Cox asked Dr. W. what he received by his plan for his milk, per gallon.

Dr. WOOWARD could not at this time give the exact net price he had received; it was evident he had done better than those who took their milk to a common cheese factory. A dairyman with boys to bring up should by all means work up his milk.

S. W. KINGSLEY inquired as to how many cows one man could care for by his plan.

Dr. WOODWARD thought the labor was reduced at least one fourth.

Prof. HALL—How do you care for your milk in cold weather?

Dr WOODWARD—Set my milk in pans two feet deep; hang them up in winter, and regulate the temperature in the usual way by artificial heat.

Dr. TEFFT—Why not let them remain same as in summer?

Dr. WOODWARD—Could not regulate the temperature as well.

R. R. STONE said Dr. WOODWARD's was very similar to the factory plan. He regulated his temperature by steam; could not heat as evenly by stoves. Ice houses were now used by all factories. Last year in hot weather the dividends were small, but only for two months.

A vote of thanks was here tendered Mr. M. H. THOMPSON, secretary of the Association, for his labors and services in building up and maintaining the Association.

On motion of R. P. McGLINCY the executive committee were instructed to pay the secretary such compensation for his services as in their judgment would be just and adequate for the labor performed.

R. P. McGLINCY offered the following, which was unanimously adopted.

WHEREAS, The members of this Association learn with deep regret that Robt. W. Stewart, of Hebron, Ills., a member of this Association, is prevented from attending this Association—by reason of sickness; therefore be it

Resolved, That we heartily sympathize with him in his affliction, and assure him that we keenly miss him in our councils and regret that he is unable to be with us.

Resolved, That the President and Secretary be authorized to send a copy of the foregoing to Mr. Stewart, and that a copy of the same be spread upon the records and published with the transactions of the Association.

Mr. I. H. WANZER then read the following paper on the question (Topic No. 15), "Can the dairymen of Illinois profitably raise calves to supply the dairy?"

I. H. WANZER'S PAPER.

It has been my good fortune to be present at most of the dairy meetings since their first organization in the West, and never remember of a more important question coming up for their deliberation than this very calf question. It seems to me to be the very foundation of the whole business. Just in proportion as we neglect the breeding and raising of the best calves, just in that proportion our dairy stock must depreciate in value and our profits grow less, and just in proportion to the care in this direction, the value of our stock will increase and our profits grow large.

Within ten miles of where we are to-day, there are at least 250 dairies that will average thirty cows to the dairy, and I venture the assertion that it will average four cows to each dairy that don't pay the expense of keeping and care from one year's end to the other. Yes, and I will go further—I believe that it will average two cows to the dairy that fall so far behind paying expenses that it takes the net profits from two paying cows to foot their bills. I base these assertions upon experiments with my own dairy, which has been up to the average in point of profit. If this is true, we have 1,000 cows that don't pay the expense of keeping and care, and 500 that absorb the profits of 500 more. There are dairymen all around us that have kept cows from the time they have bought them, say at four years old, until their teeth have rotted out and the wrinkles have gone to the ends of their horns, and never have seen a twelve-month that they have paid expenses. From our present mode of supplying the dairy with cows it can't be otherwise than grow worse; we are sure to have a very inferior looking cow, and one very unprofitable. And it is a wonder to us that, with that foresight which characterizes the West, we haven't before stopped and asked the question, Does it pay to raise calves?

Before going into the particulars, I want to ask these dairymen if they don't know that they can raise a calf and keep it until two years old, and have a calf by her side, for thirty dollars? I believe you will say yes. Then I want to ask you if, after you have got that heifer raised (a calf from one of your best cows), if you would give her for such a cow as you have to go upon the street and pay forty-five dollars for? I believe you will say no. Then does it pay to raise calves?

Let it first be fixed in your minds that it costs no more to raise a good calf than it does a poor one. Good stock for the dairy seems to be within the reach of every dairyman. There are the Holsteins, which have been bred for centuries with the object in view of perfecting them in milking qualities. There are the Ayrshires, for which wonders are claimed; and there are the Jerseys, that, when crossed with our larger kinds of stock, make cows far above the average. The milking strain of Durhams we know to be good, and we have now calves from this stock that are richly worth raising, but instead we are sending them to the butcher. Good males from all the above breeds are within the reach of us all. And when we consider that it costs no more to keep a good bull than a poor one, what matter if we pay one, or even two hundred dollars? Suppose four or five dairymen join in the purchase of a first class male, and breed him to a part of each dairy—those, of course, that are the best milkers—raise the heifers and sell the males to others. Good milking stock is within the reach of every dairyman.

"But," says one, "I have no room, no time, for raising calves." Then I say keep fewer cows and better ones; make room for the calves. Then again, we hear them say "it costs too much; the milk that a calf would take in raising up fit to go on to grass would fetch more than the animal would be worth." Now in my plea for the calves I would say to those of you who take milk to cheese or butter factories, that it is easy to make arrangements, if done when you contract your milk, so that you may obtain either skimmed milk, buttermilk, or whey to raise the few calves you need to keep up your dairy. A calf need not have new milk; give him the extra keeping when he gets so as to eat oats or bran, which they will begin to eat at four weeks old. Calves can be successfully raised on sweet whey and oat meal, warming them both together. What the calf will lose in growth the first six months can be put on the next six months by grain and good care.

Whatever else eastern dairymen visiting us have failed to notice, they have not failed to remark that we had finer cows than they, but no finer than they used to have when they raised their own stock. As the country surrounding these dairy districts became exhausted and in course of time turned their attention to dairying, they were obliged to reach out farther, glad to purchase anything that was in the shape of a cow, until America should be ashamed of the class of cows that characterize eastern dairies. If we pursue the course we are now persuing it will be but few years before we, like them, will have inferior herds. We have already exhausted the country adjacent to us, and the cows we get are inferior in form and milking qualities, when compared with the cows we used to raise, or were able to get from our neighbors. Great praise is due to those who have introduced and are still introducing superior breeds of milking stock. Dairymen should show their appreciation by liberally patronizing them. Let us by all means stop in time, and commence the raising of our own cows, and thereby have them grow better instead of worse.

I tried the experiment, last season, of raising calves upon the skimmed milk from my creamery; and as the result of this experiment may interest some of you, I will give you a few figures kept in connection with the experiment, from which you may draw conclusions as to whether it pays to raise calves in connection with creamery or not.

Number of calves put in, 120, at $4.00 each	$ 480 00
Number of gallons of milk fed, 67,200, at 1½c per gallon	1,008 00
Oats fed, 840 bushels, at 30c	252 00
Cost of labor in feeding	255 00
Pasturage, stabling, etc	100 00
Total	$2,095 00
These calves sold at an average of $21.50 each, at an average of seven months old	2,580 00
Leaving a profit of	$485 00

This amount passed to the credit of the milk would bring it up to two cents per gallon, which is equal to six cents per pound for cheese, and this kind of cheese would not have brought three cents per pound at the season I fed it, for it will be remembered that this milk set thirty-six to forty-eight hours, and all the cream was taken out.

I am so much encouraged in this way of raising calves that I expect to stock up again the coming season. I have now fifty-five young calves and ten older ones. Many of my neighbors and patrons are bringing their best heifer calves to me, and marking them, expecting to bid them in at my sale next fall, I paying the market price for them when received.

I will conclude by expressing a hope that this discussion may beget a deep interest among dairymen in the securing of good milking stock and the raising of their calves.

The topic was further discussed by E. H. SEWARD, of Marengo, who said some persons thought that the quantity of milk given to a calf after the cream is taken off should be increased; this, in his opinion, was wrong; we should dilute the milk. First feed milk a little sour; the calf will not look quite so well as when sucking the cow; gradually increase the quantity. It does not cost as much to raise calves as people suppose; if they are pastured they soon begin to crop grass. He raised calves that weighed 600 pounds without feeding grain. We sustain a great loss in killing our calves. Would advise feeding grain; oil cake is also acceptable. If dairymen would raise more calves their dairies would be more easily kept up. No objection to feeding sweet milk, only that we do not get so much butter by so doing.

J. R. McLean, of Elgin, said the question is an old one, and has received no little attention from dairymen. He had favored the idea of raising calves for years; had raised calves on sweet whey, scalded; also used a little oats and meal; fed mush, or pudding, made of corn meal, putting in sweet milk; fed no bran until September. He got a Holstein calf and took it home, and in three weeks his cows increased a can of milk. [This was said in reply to a question as to what he thought of the Holstein stock.] He had a cow which he had raised that gave sixty-one and a quarter pounds of milk per day.

Thos. Bishop said he would let calves suck until nine days old, and then put them in the barn and feed them milk; his steers at two years old weighed 700. It required about ninety gallons of milk to raise a calf.

Dr. Woodward, of Marengo, thought one of the greatest leaks was in not having good cows, and thought it impossible to have good cows unless we raise good calves.

Dr. Joseph Tefft said that in raising calves in winter a dairyman would have to provide a different kind of feed from what he did in summer.

S. W. Kingsley, of Barrington, said he had been raising calves for years, and would continue to do so.

Topic No. 13. "To what extent may soiling be profitably substituted for pasturage?" was opened by J. R. McLean, who said this is the first year we have sown corn for cattle; feed from shock; am convinced that it is a good way; will try it again; feed Hungarian in October.

D. C. Scofield, Elgin, said we are left without data on which to base calculations. When we fail to have pasturage to keep up the flow of milk, then we need Hungarian and sweet and early corn; but if there were pasturage there would be little need of soiling.

Prof. F. H. Hall said he was feeling his way in regard to soiling; used rye sown in the fall, oats, and then corn fodder, which carries him through until fall feed comes; prefers sweet corn; the objection to it is its cost; sows rye from the middle to the last of September; could not say how far an acre of rye would go, but thought it would go a great way.

S. N. **Wright**, of South Elgin, had soiled eighteen years ago; thought twenty cows could be kept on sixty acres by soiling; thought soiling could be carried on profitably. For exercising pasture would have about ten acres, and put about forty cows on it.

C. H. **Larkin**, of Elgin, had been thinking of the matter, but had no experience in it.

J. R. **McLean** suggested that dairymen try soiling, and at the next meeting report the result; thought we should have to come to soiling sooner or later. In his opinion it was not the quantity, but the quality of the food that gives the milk.

W. W. **Corbett** offered the following resolutions, which were adopted:

Whereas, This is pre-eminently an agricultural country, all other interests resting upon this industry as a foundation; therefore,

(1) *Resolved*, That agriculture, taken in its broadest sense, should receive such attention from the government of the United States as its magnitude and importance demand.

(2) *Resolved*, That we urge upon Congress the justice and the wisdom of creating a position in the Cabinet upon an equal footing as to rights, privileges, etc., to be called the "Secretary of Agriculture." whereby the interests of agriculturists may be fully represented and consulted, as well as the monied, war, naval and other interests less important than agriculture.

(3) *Resolved*, That we suggest to the State and county agricultural societies, clubs, granges, and all other kindred organizations throughout the Union, that they petition Congress to this effect, to-wit: That the agricultural interests be represented in the United States Cabinet, from the ranks of actual and successful farmers.

(4) *Resolved*, That the Secretary be instructed to forward a copy of these resolutions to the President of the United States Senate and the Speaker of the United States House of Representatives, with the request to lay them before the bodies over which they preside.

Topic No. 16. "*Resolved*, That the display of dairy products at the American Centennial has been of great benefit to the dairy interest at large," was discussed by C. H. Larkin, R. P. McGlincy, of the Elgin *Advocate*, Dr. S. M. Slade, and E. H. Seward, all of whom thought that not only was the display of dairy products at the Centennial beneficial to dairymen, but that these conventions were decidedly beneficial.

REPORT OF THE COMMITTEE ON DAIRY UTENSILS.

To the Illinois State Dairymen's Association.

Your committe appointed to examine dairy apparatus and utensils on exhibition submit the following report: McDermaid & Palmer, of Rockford, exhibit what they are pleased to call the "Boss" Churn. So far as we are able to form an opinion without the opportunity of a practical test, we report that we believe it to be as good a churn as any we have seen; experiment might perhaps enable us to make a still more favorable report.

Dr. R. R. Stone exhibits tubs and pails of Elgin manufacture to be used for packing butter. These seem to us to be a strictly first-class article, and we are confident that they will give satisfaction to such butter dairymen as may choose to use them.

Allison's patent butter tub is exhibited, which we regard as an ingenious and useful invention for closing the package without hammer or nails. We commend it to the favorable consideration of dairymen.

All of which is respectfully submitted.

Frank H. Hall,
S. M. Slade, } *Committee.*
D. C. Scofield.

S. W. Kingsley moved that the next meeting of the Association be held at Elgin.

Mr. Corbett moved to amend by striking out Elgin and inserting Sugar Grove.

The amendment was voted down and the original motion prevailed. The time for the next meeting was fixed for the second Tuesday in December, 1877, and to hold three days.

On motion of C. H. Larkin a vote of thanks was tendered the city of Elgin for the use of the court house.

On motion of Judge Wilcox a vote of thanks was tendered to the president, Dr. Tefft, for the very able and satisfactory manner in which he had presided over the convention.

On motion of D. C. Scofield the Association adjourned *sine die.*

TRANSACTIONS ON THE ELGIN BOARD OF TRADE,

From December 21, 1875, to December 12, 1876, Inclusive.

AS SHOWN BY THE SECRETARY'S BOOKS.

Dates	No. of Boxes Cheese sold	Aggregate pounds	Lowest and Highest price for Cheese	Pounds of Butter sold	Lowest and Highest price for Butter	Total amount of Sales
December 21 (1875)	900	36,000	10½	5,700	35@38	5,762 00
January 4 (1876)	2,052	85,450	10¼@11	15,740	33@37	15,040 00
January 18	2,125	93,350	10½@11	13,800	35@40	15,197 90
February 1	2,870	106,450	10½	30,600	35@38	23,009 14
February 15	800	32,550	10 @11	15,200	35@38	8,713 00
February 29	2,500	101,500	10	41,500	35@37	24,879 00
March 14	2,582	103,900	9½@10½	41,575	35@40	25,599 20
March 28	3,608	140,950	9 @10	36,800	35@40	27,100 75
April 11	3,626	158,965	9½@10	43,850	35@40	29,495 17
April 25	4,070	154,950	9¼@ 9½	44,100	35@37	30,293 70
May 2	3,700	141.700	9¼@10	41,150	33@37	28,462 50
May 9	2,880	107,600	9 @ 9¼	11,900	32@33	15,140 62
May 16	2,835	113,600	9 @ 9⅜	11,400	28@33	13,793 86
May 23	3,145	122,700	9 @11	24,595	26@33	18,407 92
May 30	2,110	84,450	9 @ 9½	3,000	25@33	8,390 86
June 6	2,225	90,000	8 @ 9	9,000	25@30	9,860 50
June 13	3,095	129,750	7¾@ 9¼	16,000	26@30	15.149 50
June 20	3,035	125,750	7¼@ 8	9,500	25@32½	12,752 50
June 27	4,238	176,935	7½@ 8⅝	2,000	24	14,789 90
July 3	2,030	88,590	7 @ 7⅜	9,450	25@33	8,996 15
July 11	5,690	252,690	7 @ 8	22,600	26@33	25,348 42
July 18	2,775	116,545	7 @ 7¾	8,000	25	10,519 37
July 25	2,000	87,250	7 @ 7½	22,000	25@26	12,369 50
August 1	2,050	82,200	7 @ 7¾	14,500	25@26	9,698 50
August 8	5,154	227,010	7 @ 9	28,100	25@33	24,569 79
August 15	2,570	107,700	7 @ 8½	8,600	26@33	10,349 75
August 22	2,860	119,600	7⅛@ 7¾	15,700	26@28	12,913 25
August 29	3,915	167,200	7¼@ 8	21,600	28@32	18.744 25
September 5	1,975	80,000	7¼@ 8½	9,500	28@35	8,970 00
September 12	4,100	192,850	9 @10	4,700	28@35	19,196 03
September 19	2,380	100,850	9½@11	12,640	32@35	14,968 80
September 26	4,563	201,395	10½@11¾	21,540	33@35	27,763 46
October 3	3,240	131,800	11¼@12	21,930	30@35	23,866 40
October 10	2,795	113,175	10¾@11½	27,450	31@36	22,172 62
October 17	3,051	122,540	11¼@12½	16,750	31@36	21,034 37
October 24	2,350	101,250	11 @12½	16,500	33@36	17,780 50
October 31	2,015	81,725	11 @12½	16,000	33@37	14,724 12
November 14	6,332	242,545	11¼@12½	45,575	32@36	43,972 68
November 21	2,135	95,250	11 @11¼	12,372	33@37	17,314 25
November 29	5,670	283,375	11 @11¾	27,850	32@36	41,384 55
December 12	2,840	112,050	11¼@11⅝	26,100	35@38	24,033 37
Totals	127,356	5,177,730		829,267		$767,640 68

[The accompanying figures of the Transactions on the Elgin Board of Trade, while not properly belonging to the Proceedings of the State Dairyman's Association, are presented to give an idea of the amount of business done on the Board, as well as to show the amount of dairy products handled on the Board during the time specified. The showing is very gratifying, and further shows that the Elgin Board of Trade is doing much to make Elgin the great Dairy Center of the Northwest.]

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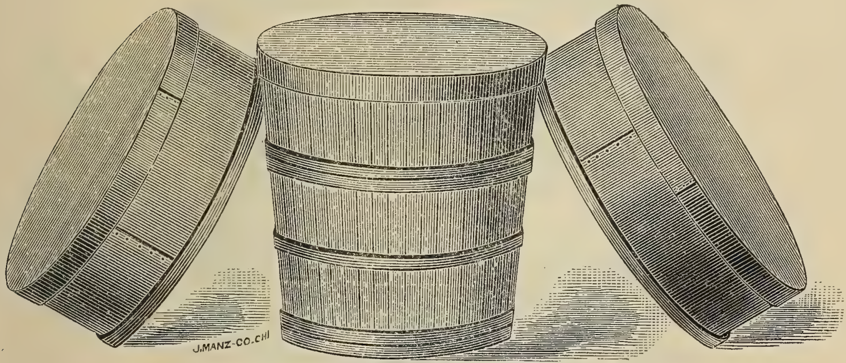

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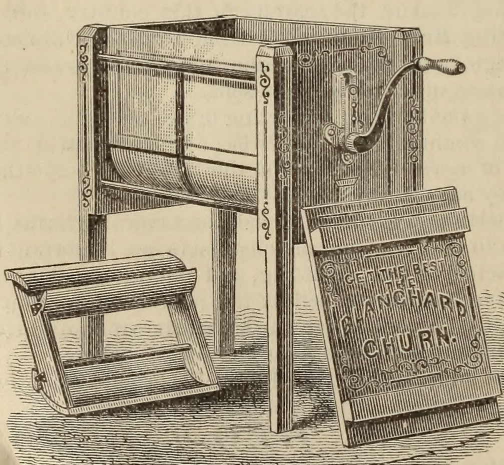

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